

# GGR462/JPG1914: GIS RESEARCH PROJECT

## Course Outline

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### DESCRIPTION

Students learn how to design, manage, and complete a research project that emphasizes the use of a geographic information system (GIS). Students work in groups of four to six. Groups will agree with the instructor on a suitable problem and then solve it by acquiring, organizing, and analyzing data using a GIS. Projects must include a substantive analytical component where GIS is central to the methods used.

Although real issues in geographical analysis are addressed, the focus of the course evaluation is on the project's methodological and organizational design, the application of appropriate GIS techniques, and proper reporting of the results. The GIS component is accomplished through independent work. It is assumed that students already know the GIS concepts and functions required or are capable of learning them, and are proficient in the use of at least one GIS package. **This is a time-consuming course that simulates a team-oriented, workplace environment. Students must be highly motivated and able to make progress without constant supervision, manage their time effectively, meet strict deadlines, and be prepared to contribute to their group.**

Each group has the freedom to choose their own project topic. The instructor may suggest some project ideas, but students are welcome to develop their own. If you have an idea for a group project, you are encouraged to discuss it with the instructor as soon as possible to see if it is feasible and to start the process of data acquisition, which can be time consuming. Ideas may come from a variety of sources, such as a current or previous employer, work done as a volunteer, or work done in another course or on a field trip. Just keep in mind that the project topic must appeal to other members of your group. If you plan to work with an outside organization, you are encouraged to contact them as early as possible, as it often takes a while to arrange for data acquisition.

There are some lectures during the term but at least some time in several of the classes is used for groups to work on their projects and for informal progress reports and consultation with the instructor. Students are expected to participate in discussions.

### MEETINGS

Tuesday, 1:10-3:00, Physical Geography Building, room 003 (the Collaboratory in the basement).

### INSTRUCTOR

#### Don Boyes

[Department of Geography and Program in Planning](#)

Office: 5011, Sidney Smith Hall

Twitter: <http://twitter.com/#!/donboyes>

Phone: (416) 978-1585

Google+: <http://www.google.com/profiles/donboyes>

E-mail: [don.boyes@utoronto.ca](mailto:don.boyes@utoronto.ca)

Skype: donboyes

Blog: [donboyes.com](http://donboyes.com)

Online office hours: <http://geogutoronto.adobeconnect.com/donboyes/>

Course website (Blackboard): <http://portal.utoronto.ca> (requires UTORid and password)

## **Office hours**

**Online:** Thursdays, 3:00-4:00 pm starting January 10. **In person:** open-door policy, or by appointment.

Online office hours will be held using Adobe Connect web conferencing software. You can use the URL above to enter the virtual room. With Adobe Connect, I can show PowerPoint slides from lectures, do live demonstrations of the GIS software, and meet with students individually or many at the same time (you can either ask questions by typing in a chat window or by using a webcam if you prefer).

If you have never attended an Adobe Connect meeting before:

For an overview: [http://www.adobe.com/go/connectpro\\_overview](http://www.adobe.com/go/connectpro_overview)

Test your connection: [http://geogutoronto.adobeconnect.com/common/help/en/support/meeting\\_test.htm](http://geogutoronto.adobeconnect.com/common/help/en/support/meeting_test.htm)

You can use Adobe Connect on an iPhone, iPad, Android phone, and Blackberry Playbook. For more information, see: <http://www.adobe.com/ca/products/adobeconnect/feature-details/adobe-connectmobile.html>

You're welcome to drop by (either virtually or in person) any time I'm free during normal business hours (not right before class, please), but it helps my time management if you are able to arrange an appointment in advance. While you are always welcome to contact me, be sure to first check the course website, including the discussion board and course files to see if the answer to your question is there. If you think your teaching assistant might be able to help, please try them first (again for the sake of time management).

## **GIS LAB SESSIONS**

There are no scheduled lab sessions in this course. Students will be given computer accounts and are expected to work in the Collaboratory, GIS Lab, or on their own computers as needed.

**Note:** students can download a free, one-year student edition of ArcGIS from the Map and Data Library (Robarts Library, 5<sup>th</sup> floor). For instructions, go to <http://bit.ly/rWuqLi>. The software is Windows-only, but it is possible to run it on a Mac (for more information, see <http://bit.ly/s3InFN>).

## **TEXTBOOK**

There are no specific textbooks or readings. You are expected to identify relevant material for your particular project.

## **PREREQUISITES**

**GGR 462S:** GGR 272H, 373H, and two other GGR courses. Other combinations of courses may also be suitable, with permission of the instructor. Knowledge of basic statistics is recommended.

**JPG 1914S: Requires permission from the instructor** (please contact me before the course begins). A strong GIS background is required (i.e., several GIS courses at the university level; JPG1906 or online courses are not sufficient preparation). This is a project-based course, where students use concepts and skills they have learned in previous courses. This is not an introductory course and is not a substitute for JPG1906.

**Note:** Graduate students are expected to complete a group project. Groups may be composed entirely of graduate students if there are sufficient numbers and common interests. If not, graduate students will work in a group with undergraduate students, while participating and contributing at a graduate level. Due to the workload in this course, students are not allowed to complete a project on their own.

## EVALUATION

The evaluation components build on each other. There are three written components and three accompanying presentations: a proposal, a progress report, and a final report. The progress report will include material from the proposal, and the final report will build on the progress report (this applies to both the written reports and the presentations). Each student must participate in each presentation and will be assessed on their performance. Each group will also be marked on the presentation as a whole. There will be no individual mark for the first presentation so that you can each get some constructive feedback and help you to prepare for the progress presentations. The written versions of each component will be due by the end of the next day following the presentations in order to give you a chance to incorporate any feedback from your classmates and the instructor.

Several classes will be devoted to project updates from each group, in which each member of each group is expected to briefly summarize their progress. These sessions provide an opportunity to discuss challenges and get suggestions from the instructor. *The instructor reserves the right to adjust the final mark of any student up or down based on their performance and contribution to their group.*

Section	Item	Assessment	Weight	Subtotal	Duration
Proposal	Presentation	Individual component	0%	15%	4 weeks
		Group component	5%		
	Document	Group mark	10%		
Progress report	Presentation	Individual component	5%	30%	4 weeks
		Group component	5%		
	Document	Group mark	20%		
Final report	Presentation	Individual component	5%	55%	4 weeks
		Group component	10%		
	Document	Group mark	40%		

## USING THE SOFTWARE ON YOUR OWN COMPUTER

The software used in this course is called ArcGIS for Desktop (Advanced version) made by [ESRI Inc.](#) If you have a Windows computer (either a PC or a Mac that also has Windows installed) you have the option of downloading and installing a free, one-year student edition of ArcGIS on your own computer. Since all of the exercises, assignments, and necessary data will be available for download from the course website, many students find using ArcGIS on their own computer to be a convenient option so that they do not have to complete all their work in the GIS Lab. You can download the software from the University of Toronto Map and Data Library. For instructions, go to <http://bit.ly/rWuqLi> and if you need installation assistance, contact [gis.maps@utoronto.ca](mailto:gis.maps@utoronto.ca). The software is Windows-only, but it is possible to run it on a Mac (for more information, see <http://bit.ly/s3InFN>). An internet connection is not required to run ArcGIS once it has been installed.

## **COURSE POLICIES**

### **Late penalty**

In keeping with the professional environment promoted in the course, **there will be no provision for late submissions** (i.e. late submission will result in a mark of zero) without medical documentation.

### **Technical problems**

This course requires the use of computers, and many things can go wrong when using them. You are responsible for ensuring that you maintain regular backup copies of your files, use antivirus software (if using your own computer), and schedule enough time when completing an assignment to allow for delays due to technical difficulties. Computer viruses, crashed hard drives, broken printers, lost or corrupted files, incompatible file formats, and similar mishaps are common issues when using technology, and are not acceptable grounds for a deadline extension.

### **In case of illness**

Requests for assignment deadline extensions must be made to the instructor within 5 business days after the deadline, and must be accompanied by an original copy of the official university medical form. Medical forms are accepted at the discretion of the instructor, and must clearly indicate that you were incapacitated for the date of a test or for several days in the case of an assignment (being ill immediately prior to the deadline for a two- or three-week assignment is not sufficient grounds for a deadline extension).

### **Inquiries about graded term work**

Any inquiries must be made within one month of the return date of the work. This is in accordance with Arts and Science rules as stated in the calendar. Please contact the person that did the marking first. If, after discussing the issue with the marker, you are still not satisfied with the explanation for your mark, you should then contact the instructor.

### **Accessibility needs**

The University of Toronto and the course instructor are committed to accessibility. If you require accommodations or have any accessibility concerns, please visit the [Accessibility Services website](#) as soon as possible.

### **Academic offences**

Plagiarism and other academic offences including impersonating another student or providing false or altered medical forms, death certificates, or similar documents will not be tolerated. For more information, please refer to the [Arts and Science Code of Behaviour on Academic Matters](#).

### **Other Student Support Resources**

The university provides a range of student support related to student life and academic success. Learner supports include services related to University Life, Library, Academic skills support, IT support and more. See [Learner Support Available at the University of Toronto](#).

## GGR462/JPG1914 COURSE SCHEDULE

	Week	Date	Topics and Deadlines
<b>Proposal</b>	1	Jan. 8	Course introduction; preliminary group formation
	2	Jan. 15	Designing a GIS research project; proposal requirements; finalize groups; <b>Submit: List of group members, roles, and tentative topic</b>
	3	Jan. 22	Project management; effective use of MS Word and PowerPoint
	4	Jan. 29	<b>Proposal presentations in SS2125 (submit PowerPoint file to the instructor); Submit: Proposal document via Blackboard by <u>Jan. 30</u> at 5:00 pm</b>
<b>Progress Report</b>	5	Feb. 5	Progress report requirements; Consultation with instructor, free time for group work
	6	Feb. 12	<i>Project week (no class – please schedule an appointment if needed)</i>
	*	Feb. 19	Reading Week
	7	Feb. 26	Status reports, consultation with instructor, free time for group work
	8	Mar. 5	<b>Progress presentations in SS2125 (submit PowerPoint file to the instructor); Submit: Progress report via Blackboard by <u>March 6</u> at 5:00 pm</b>
<b>Final Report</b>	9	Mar. 12	Final report requirements; Status reports, consultation with instructor, free time for group work
	10	Mar. 19	<i>Project week (no class – please schedule an appointment if needed)</i>
	11	Mar. 26	Status reports, consultation with instructor, free time for group work
	12	April 2	<b>Final presentations in SS2125 (submit PowerPoint file to the instructor); Submit: Final report via Blackboard by <u>April 4</u> at 5:00 pm</b>

*The instructor reserves the right to modify the topics and schedule during the term.*