

GGR272: GEOGRAPHIC INFORMATION AND MAPPING I

Course Outline

This course is an introduction to digital mapping and spatial analysis using a geographic information system (GIS). You will learn how to create your own maps and how to use a GIS to analyze geographic problems using methods that can be applied to a wide variety of subject areas within geography and in other disciplines. In the lectures, we discuss mapping and analysis concepts and how you can apply them using GIS software. The practical assignments provide an opportunity for you to learn how to use the software, gaining hands-on experience with ArcGIS from ESRI Inc., the most popular GIS software and an industry standard in many fields. Course website: <http://portal.utoronto.ca>.

There is no prerequisite for this course. There is very little math in this course. A basic familiarity with computers and the Microsoft Windows operating system is assumed.

ORIENTATION TO ONLINE FORMAT



The course is structured around weekly topics and activities. Each Monday morning, one or more new lecture recordings (also known as podcasts) will be made available that are related to that week's main topics (as listed in the course schedule). The podcasts consist of narrated PowerPoint slides in a format that allows you to navigate to any slide in the presentation. The slides will also be available as PDF files.

Software demonstration videos will be provided to demonstrate various aspects of using the software. These will help prepare you for completing the assignments.

There is no required textbook for this course. Links to online readings will be provided by the instructor.

There is no scheduled lecture time. Over the course of each week, you are expected to watch the podcasts and demonstration videos, read all assigned readings, complete assignments, and participate in discussions on the course website as needed. All of the necessary material for each topic is clearly organized and available on the Blackboard course website (under "Course Materials").

Taking an online course like this gives you the opportunity to learn about new communication and learning tools that will be valuable to you in the future. Try to think of this as another aspect of your learning experience, and take the opportunity to learn how to use webinars, videoconferencing, screen sharing, and podcasts, as well as more common tools such as discussion forums and chat windows.

Please keep in mind: this is a summer course and compresses 12 weeks of course material into 6 weeks. This can be a great way to earn a course credit in a short period. However, many of the concepts and skills learned in this course are cumulative. It is essential that you complete all work each week so that you are properly prepared to begin the next week's material. Online courses provide great flexibility as to when you work on them, but they require more time than a regular course, not less (because you're working more independently) and it's also easier to procrastinate and fall behind. This is why online courses have higher drop rates - don't let this happen to you! If you find you are getting behind, ask for help from your TA or instructor as soon as possible.

TECHNICAL REQUIREMENTS

You must have access to a computer, tablet, or smart phone with a Wi-Fi internet connection (or faster) to be able to watch the podcasts and videos. The podcasts use Flash, which is available on most devices, and can be viewed on an iPad using the free [Adobe Presenter Mobile app](#) (there is no iPhone app at this time). The requirements for accessing the GIS software used to complete the assignments are discussed in the section below "Options for using the GIS software".

EVALUATION

- Quizzes: 5%
- Assignments: 45%
- Final exam: 50% (written in person on the St. George campus during the exam period June 23-27)

Online quizzes

Quizzes will be provided in Blackboard to help you assess how well you are learning and to prepare you for the final exam. You are not assessed on correct answers, but only on the total number of quizzes completed. The quizzes can be taken as many times as you like until the start of the final exam.

Assignments

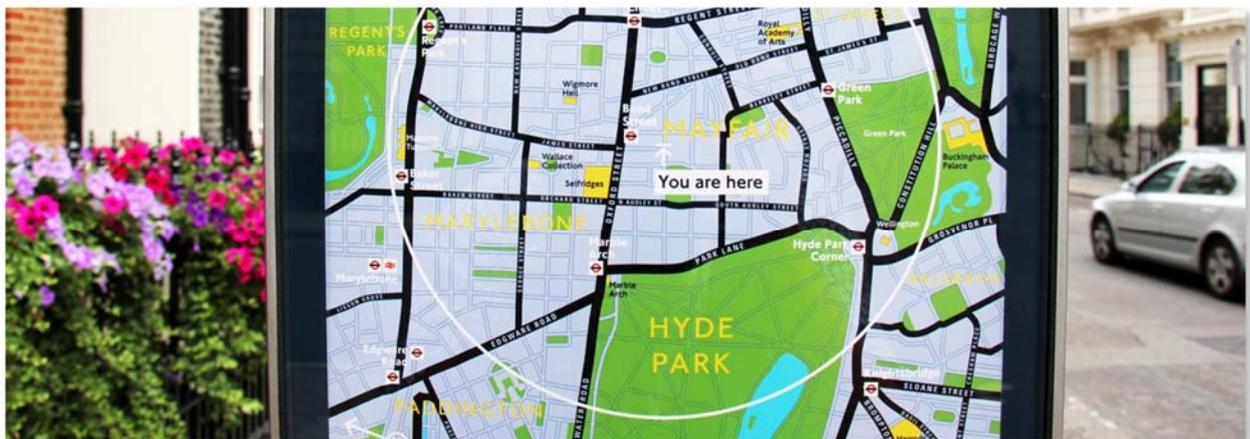
The assignments are designed to help you see the connections between the concepts discussed in the lectures and how they are applied in the software. By the end of the course, you should be able to make informed decisions about what tools to use and how to use them, both individually to answer specific questions, and in a sequence to solve larger problems. You should also be able to communicate your results in map and text forms, and interpret and discuss the meaning of those results. The time required to complete the assignments varies a lot, depending on the person. You will be learning how to use complex software, and gaining practical skills in mapping and problem solving, so **you should be prepared to commit a substantial amount of time (likely several hours) to this each week.**

Final exam

Students will be responsible for all course material for the entire term. The examination format will be multiple choice and short answer questions. The questions asked in the podcasts, in the quizzes, and in the assignments are all meant to provide examples of the types of questions you may encounter on the exam in order to help you prepare for it. **The final exam must be written in person on the St. George campus during the exam period (June 23-27).**

Online discussion

There is a lot to learn in this course, and you will find that interacting with other students, the teaching assistants, and the instructor will make your learning experience more efficient and more enjoyable. You are strongly encouraged to ask and answer questions in the Blackboard discussion board forums. **You can subscribe to the forum so that you are notified when there is a new post**, to save you having to check it all the time. If you have a smart phone or tablet, you may be interested in using [Blackboard Mobile Learn](#), which makes participation in the online discussions more convenient. You will not be evaluated based on your level of participation in online discussions, but it will likely help you with the other aspects of the course in which you *are* being evaluated.



INSTRUCTOR



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

Office: 5011, Sidney Smith Hall

Phone: (416) 978-1585

E-mail: don.boyes@utoronto.ca

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

Website: <http://portal.utoronto.ca> (Blackboard, requires UTorID & password)

Office hours

In person: open-door policy; drop by or make an appointment. Sidney Smith Hall room 5011.

Online: **Wednesdays, 1:00-1:30 pm and Thursdays, 7:00-7:30 pm** or by appointment.

Click [here](#) to go to the virtual room for my office hours.

Your TA will also have office hours to help you with the assignments (check the Contacts page on Blackboard for times).

Online office hours are held using Adobe Connect web conferencing software. Use this URL to enter the virtual room: http://geogutoronto.adobeconnect.com/ggr272_14su/. With Adobe Connect, the instructor can show PowerPoint slides from podcasts, 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 microphone and/or webcam if you prefer). There is no preparation required to use the online office hours, but you can test your connection [here](#) and find out about mobile apps [here](#) (iPhone, iPad, Android phone, and Blackberry Playbook). 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.



OPTIONS FOR USING THE GIS SOFTWARE



In order to complete the assignments, you will need to use **ArcGIS for Desktop 10.2** (Advanced version) made by [ESRI Inc.](#) You have several options for accessing ArcGIS:

Install ArcGIS on your own computer

PC: If you have a Windows computer, you have the option of downloading and installing a free, one-year student edition of ArcGIS on your own computer. Since all of the 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. You can download the software from the University of Toronto Map and Data Library. For instructions, click [here](#) and if you need installation assistance, contact gis.maps@utoronto.ca. An internet connection is not required to run ArcGIS once it is installed.

Mac: The ArcGIS software is Windows-only, but it is possible to install it on a Mac. Apple's OS X and later come with a free utility called [Boot Camp](#) that allows you to install Windows on a Mac (you will need a valid copy of Windows). You can download ArcGIS from the University of Toronto Map and Data Library. For instructions, click [here](#) and if you need installation assistance, contact gis.maps@utoronto.ca. For information on how to install ArcGIS on a Mac, please see this [web page](#). An internet connection is not required to run ArcGIS once it is installed.

Run ArcGIS over the Internet

If you are unable to install ArcGIS on your own computer (or just prefer not to), you have the option of running it over the Internet. Using XenApp by Citrix, your ArcGIS session runs remotely on a server, and you interact with it using a "thin client" window that can be used on a Mac or PC with nothing to install on your computer other than the small and simple Citrix Receiver (and Windows is not required if you're using a Mac). An internet connection is required in order to use ArcGIS via Citrix. Instructions on how to get started with Citrix can be found by clicking on the GIS Software menu link in Blackboard.

Note: Before you can access ArcGIS over the Internet, you will need to **verify your UtorID password** at <https://www.utorid.utoronto.ca/> (click "Verify" under the orange box at the bottom). You have to do this even if you have previously activated your UtorID, as this synchronizes your password with the Citrix server, and then you will be able to log in (you will only have to do this once).

You will find the course data on the N: drive in Citrix, and your student workspace (where you can save your files) is the G: drive. Remember that, in order to access any drive in ArcMap, you have to first click on the Connect Folder icon in the Catalog pane in ArcMap and select the drive. You should only have to do this once. Note: assignments are completed in Blackboard using a web browser. If you are using Citrix, it is best to complete your work in ArcGIS and then use a browser inside Citrix to complete the assignment.

Use ArcGIS in the GIS Lab

If you are able to come to campus during the day, you are welcome to use ArcGIS in the GIS Lab, found in Sidney Smith Hall room 620 (Level "G", one floor below street level). You will have to login using a geography account (not your UtorID). Your account will be set up before the course starts. Instructions for using the GIS Lab are available on Blackboard as a PDF document. In the summer, the GIS Lab will be open 9:00 am to 5:00 pm.

Use ArcGIS in Robarts Library

Two computer labs in Robarts Library have ArcGIS installed. The Map and Data Library (fifth floor) has 20 workstations. The staff there are available to help with any problems or technical questions you may have with ArcGIS, and can provide general advice. Please note that they are not able to provide any specific help related to your assignments. There are another 40 computers with ArcGIS on the fourth floor.

GETTING HELP

Learning how to use software to complete various tasks and solve geographic problems can sometimes be challenging. The ability to work independently is a valuable skill for all GIS users, and it is important that you take advantage of all available resources, including podcasts, video demonstrations, and readings in the specified [ArcGIS Help sections](#). However, if you are stuck and are not able to find a solution from the resources provided, you are encouraged to post a question to the course discussion board. Chances are that another student or a TA has encountered a similar problem and will be able to offer advice.

Lecture questions:

You are strongly encouraged to use the Discussion Board to ask your fellow students and/or the course instructor questions. Students sometimes feel isolated and that they have no one to talk to about the course. Don't let this happen! If you participate in conversations online, you'll have a much easier time understanding the material, keeping up, and you will likely find the course experience more enjoyable. Using the Discussion Board also allows other students to benefit from the discussion and dramatically improves efficiency in communication. E-mail to your TA or the instructor should only be used for personal questions, such as requests for deadline extensions due to illness.

Assignments:

- Consult the readings, video demonstrations, and podcasts, all found under Course Materials
- [ArcGIS Help 10.2](#)
- Ask your fellow students via the Discussion Board (you are encouraged to ask and answer questions in the forum, keeping in mind that you cannot describe your methods, provide answers to specific assignment questions and should not post images of your maps – if you need to do this, send an e-mail to your TA instead and they will be happy to answer your question)
- Ask your TA, through the Discussion Board, by e-mail (see the Contacts link on Blackboard), or through online office hours
- Ask the course instructor, through the Discussion Board, by e-mail, phone, in person, or through online office hours

Technical (software) support

- [ArcGIS Help 10.2](#), [ArcGIS online forums](#)
- Ask your TA, through the Discussion Board, by e-mail (see the Contacts link on Blackboard), or through virtual office hours
- Ask your course instructor

Assignment/software help via screen sharing:

If you're stuck on an assignment or having trouble with the software, your TA can view and, optionally, control what is on your computer with your permission. This can be an efficient way to quickly assess the situation and offer possible solutions. You control if, when, and how screen sharing occurs and you will be able to see everything that is happening on your screen. Your TA does not have access to your local computer files, and they are only able to see the window you specify. Don't be shy - it's easy to use! For more information, go to the [screen-sharing instructions](#) (we can walk you through it).

Learner Support Available at the University of Toronto

For information on student services and resources for things like writing skills, library resources, IT services, and accessibility services, consult this [website](#).

COURSE POLICIES

Late penalty

A penalty of 5% of the total mark for the assignment will be applied per day, up to 7 days (excluding weekends and holidays), after which assignments will not be marked. If an assignment is submitted after the deadline, it will be penalized for that day (up to 24 hours after the time it was due, after which an additional 5% will be deducted for each subsequent 24-hour period). If an assignment has been marked and handed back to the class, no other assignments will be accepted (even if it has not been 7 days). Submit answers to assignment questions using the Blackboard pages provided and submit any maps or other figures as JPEG files using the Blackboard assignment tool. Printed or e-mailed submissions are not accepted.

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 two weeks 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](#).

GGR272 COURSE SCHEDULE

Date	Topic	Assigned ¹	Due
May 12	<p>Course introduction: what's this course about, and why take it?</p> <p>What is a GIS?: definition of a GIS, and why you might want to use one</p> <p>Introduction to ArcGIS: getting started with ArcCatalog and ArcMap</p>	Exercise (not marked)	
May 19	<p>Map design: cartographic methods to improve map communication</p> <p>The Earth and its coordinate system: how to specify a location on the surface of the Earth, and why it is so important to mapping</p>	Map Design (5%)	
May 26	<p>Map projections: creating a 2D map of a 3D world</p> <p>Mapping quantitative data: colour models and how to use them with different data types; exploring, calculating, and classifying attribute data</p>	Map Projections (10%)	Map Design
June 2	<p>Quantitative map types: making an effective map with quantitative data</p> <p>Queries and data preparation: selecting data based on location or values in a table; tasks often performed when making a map</p>	Quantitative Mapping (15%)	Map Projections
June 9	<p>Distance and overlay: methods for determining distance from features and for comparing different map themes found at the same location</p>	Overlay Analysis (15%)	Quantitative Mapping
June 16	<p>Data acquisition: finding map data online and using metadata to assess its value</p> <p>Course review: discussion of the final exam including tips on how to prepare</p>		Overlay Analysis
June 23	<p>Final exam during exam period June 23-27 (written <u>in person</u> on St. George campus)</p>		

¹ **Assignments are assigned and due on Monday morning at 10:00 am during the corresponding week listed above.**

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

Note: *if an unexpected technical issue occurs with a university system (e.g., Blackboard) that affects its availability or functionality, it may be necessary to revise the timing or weighting of the assessments.*

