

Department of Geography and Planning
University of Toronto
GGR272: Geographic Information and Mapping I - ONLINE
Summer 2020

Instructor: Kristian Larsen
Office: Online office hours only
Online Office Hours: Tues and Thurs – 1pm-2pm; or by appointment (email to set up a time)
Email: kristian.larsen@utoronto.ca (will usually answer within 24 hours)

PREREQUISITE

There are no prerequisites for this course.

Students will need their own computer which is able to run ArcGIS. A familiarity with computers and the Microsoft Windows operating system is required. A general understanding of geography is helpful, but no prior geography courses are required.

CLASS FORMAT

This is an online, hybrid course. Synchronous lectures will be given from 10am-12pm on Tuesday and Thursday, students will have the opportunity for synchronous online discussion and questions during class times. These lectures will be recorded and posted online for future viewing. There will also be synchronous online help desk (lab sessions) at various times throughout the week, which are optional but provide an excellent opportunity for student to obtain help from the teaching assistant.

SOFTWARE:

The course uses ArcGIS software from Esri Inc., the most popular GIS software and an industry standard in many fields. Students need to obtain a student copy of ArcGIS from the map and data library for their own PC. Mac users can install Bootcamp to install ArcGIS or can use citrix. Citrix will work to complete the work but it can be quite slow at peak times. You need to be able to work with ArcGIS on your own computer to complete this course as no lab computers will be available on campus.

ONLINE LECTURES– VIA BLACKBOARD COLLABORATE

Tuesday 10:00am-12:00pm

Thursday 10:00am-12:00pm

COURSE DESCRIPTION

Geographical Information Systems (GIS) has emerged as an extremely useful, state-of-the-art and popular tool to study and manage geographical problems. Over the past years, researchers and professionals have increasingly turned to GIS for acquiring, processing, analyzing and mapping environmental and socio-economic data. This course offers a comprehensive introduction to the principles of GIS, provides a hands-on experience to using GIS, and how to create maps that effectively communicate data meanings. The online lectures will cover the fundamental theory of GIS and will discuss examples of how it is implemented in GIS software. Much of the course will also deal with GIS based methods for problem solving. Students will learn and complete case studies that are not only relevant to Geography, but also Public Health, Transportation Planning and other disciplines. The assignments will give the students an opportunity to learn and practice GIS through practical assignments. They will learn how to produce attractive and informative maps.

REQUIRED TEXTBOOK

Chang, Kang-tsung. 2018. Introduction to Geographic Information Systems, 9th Edition. Toronto: McGraw-Hill.

You can use the paper or online version of the text. Online version can be purchased here:

http://www.campusebookstore.com/integration/AccessCodes/default.aspx?bookseller_id=96&Course=STG+GGR+272F++eTEXT+INTRO.+TO+GEOGRAPHIC+INFOR.+SYSTEMS+9E&t=permalink

or here:

<https://connect.mheducation.com/class/k-larsen-summer-2020>

Note: The most recent and earlier edition of the text will suffice, but you will then be responsible for any content that may have changed.

You will be assigned weekly readings from the course text. You are expected to have read the assigned materials prior to lecture. Online tests and final assignment will include questions to assess your ability to recall, define, and apply concepts and methods drawn from the assigned readings.

LEARNING OBJECTIVES

- Develop an understanding of GIS and its application in the fields of natural and social sciences.
- Acquire hands-on experience with using ArcGIS, the most popular GIS software.
- Learn how to communicate geographical information using maps.
- Develop an understanding of the GIS data structure.
- Begin to understand the methods of spatial analysis using GIS.
- Learn basic cartography and map making.

COURSE WEBSITE

Quercus: q.utoronto.ca

Log in using your UTORid and password.

INSTALL ARCGIS ON YOUR OWN COMPUTER

PC: Students can download and install a free, one-year student edition of ArcGIS on a Windows computer. All of the assignments and data will be available online. You can download the software from the University of Toronto Map and Data Library and if you need installation assistance, contact gis.maps@utoronto.ca.

Fill the form to request a license first.

<https://mdl.library.utoronto.ca/technology/gis-software/esri-software-request>

Follow the installation tutorial after obtaining a license.

<https://mdl.library.utoronto.ca/technology/tutorials/arcgis-10x-installation-instructions-students>

Mac: ArcGIS is Windows-only but can be installed on a Mac using a free utility called Boot Camp that comes with OS X and later (but you will need a valid copy of Windows). For information on Boot Camp go to <https://support.apple.com/boot-camp>

Citrix: Instructions on installing citrix are available on quercus.

Please note, you are responsible to ensure you have a working version of ArcGIS on your own computer. The map and data library staff, instructor and TA's are willing to help, but many of us do not work on Mac computers.

EVALUATION

Laboratory Assignments: 60%

Lab 1: (15%)

Lab 2: (15%)

Lab 3: (15%)

Lab 4: (15%)

Online tests: 15%

Online Test 1: 5% available May 19th until May 26th

Online Test 2: 5% available May 26th until June 2th

Online Test 3: 5% available June 2nd until June 9th

Final Assignment: 25% (Cumulative)

FINAL ASSIGNMENT

The final assignment will be completed online and is similar to a final exam, it will be open book and you will have two days to complete. It will take place during the final assessment period in June and will cover the content of the entire course.

TESTS

You will have three open book online tests. You will be challenged to locate, define, explain and apply concepts and methods from both lectures and assignments. Test availability in the table above refers to the time over which each quiz will be available for completion online. Each test will be available from 9:00 a.m. on the start date, until 5:00 p.m. on the end date, as posted in the course schedule. You can start or continue your test anytime while it is available. Keep in mind, once you answer a question (even if you leave it blank) you will not be able to change your answer.

ASSIGNMENTS

There will be **4 practical assignments** in this course. Assignments will be submitted electronically and due at 10am on Tuesday the week it is due, details on online submission are available on quercus.

ONLINE HELP DESK: You are not required to attend scheduled tutorials or lab sessions. Instead, there will be scheduled "Help Desk" times each week when a teaching assistant will be available to virtually assist you. These are informal virtual drop-in sessions and you are welcome to attend as many as you like. The Online Help Desk schedule is posted below. Please note that the teaching assistant's role is to guide you and make suggestions but in order to learn the concepts and software, you must be prepared to try things on your own. The TAs will not give you the answers to assignment questions, as this would deny you the chance to learn for yourself.

Helpdesk starts on Tuesday May 12th

Blackboard Collaborate – on Quercus

Times: M 10am - 12pm

T 2pm - 4 pm

R 1pm - 3 pm

TA INFO

Jordan Aharoni - jordan.aharoni@mail.utoronto.ca
Anna Shadrova - anna.shadrova@mail.utoronto.ca
Teresa Morante Arona - teresa.morantearona@mail.utoronto.ca

ONLINE SUBMISSIONS FOR TERM WORK

It is every student's responsibility to ensure that their online submission is submitted successfully by the due date. Accommodations will not be made for unsuccessful submissions due to, but not limited to, i) the system timing out ii) submitting the incorrect document(s) iii) poor internet connection / no internet connection / hydro outage etc.

LATE PENALTIES

Late submission of assignments will result in a deduction of 10% per calendar day (weekends included) for a maximum of 7 days. 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). No re-writes will be provided if you miss the online test.

IN CASE OF ILLNESS

Requests for assignment deadline extensions must be made to the instructor within five business days after the deadline

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](#). For other needs (i.e. Religious, Illness, etc.) please see the professor in private before the assignment due date.

ACADEMIC INTEGRITY

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 [Code of Behaviour on Academic Matters](#).

USE OF CLASS MATERIALS AND COPYRIGHT NOTICE

The materials used in this class, including, but not limited to lecture notes, video recordings, quizzes, and assignments are copyright protected works. If a student wishes to reproduce lecture presentations, course notes or other similar materials provided by the instructor, he or she must obtain the instructor's written consent beforehand. Otherwise, all such reproduction is an infringement of copyright and is absolutely prohibited. In the case of private use by students with disabilities, the instructor's consent will not be unreasonably withheld.

TECHNICAL PROBLEMS

This course uses computers, and there are many things can go wrong when using them. You are responsible for ensuring that you maintain regular backup copies of your files 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 an extension.

REMARKING REQUESTS

Any inquiries about marking 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.

EXPECTATIONS AND COURSE POLICY

Students are expected to demonstrate their knowledge of all course material (e.g., lecture notes, readings). Students are required to engage in a significant amount of independent study. To be successful, students will have to commit to working on assignments and papers outside of regularly scheduled online lectures. All assignments are due at the times indicated by your professor.

COURSE TOPICS

Week	Date	Lecture	Tutorial		
			<i>Reading</i>	<i>Assigned</i>	<i>Due</i>
1	May 5	Introduction What is GIS?	No readings	No help desk	
2	May 7	Intro to ArcGIS Basic map design	Chapter 1	No help desk	
3	May 12	Coordinate systems The shape of the earth and map projections	Chapter 2	Lab 1	
4	May 14	Mapping and GIS data 1 Vector data model	Chapter 3		
5	May 19	Mapping and GIS data 2 Raster data model	Chapter 4	Lab 2	Lab 1
6	May 21	Creating a digital world Digitization and spatial data editing	Chapter 5		
7	May 26	Data accuracy and quality Steps to using "good" data	Chapter 7	Lab 3	Lab 2
8	May 28	Mapping quantitative data Displaying data	Chapter 9		
9	June 2	Data exploration Data acquisition and queries	Chapter 10	Lab 4	Lab 3
10	June 4	Understanding spatial processes 1 Vector data analysis	Chapter 11		
11	June 9	Understanding spatial processes 2 Vector data analysis	Assigned readings		Lab 4
12	June 11	Course review			

Note:

1. All labs will be assigned during the online lectures. Each assignment will be digitally available through the course website on the day of that week's lecture.
2. The assignments are due at 10am on Tuesdays.
3. The instructor may change the topic and content of the lectures at a later time.