

GEOG2232 Introduction to Geomatics and GIS

Course Syllabus

Course Description

An introduction to the fundamental principles and techniques that comprise the field of geomatics, especially Geographic Information Systems (GIS). Topics include the collection and visualization of geographical data through various means, database construction and manipulation, and exposure to analog and digital spatial technologies, such as GPS, surveying and digital aerial photography.

Faculty Information

Lisa TUTTY

Office: Second floor lounge in N building (at Barrie campus) **or** OR1037 (first floor of the residence building at Orillia campus)

Phone: 705-330-4008, ext. 2710 (Orillia office)

Email: LTUTTY@lakeheadu.ca

Office Hours: Monday and Wednesday 10-11am in Barrie
(**or** Noon-1pm Tuesday and Thursday in Orillia)

Course Learning Outcomes

Upon successful completion of this course, the student will have reliably demonstrated the ability to:

- introduction to raster and vector-based GIS;
- develop a working knowledge of ArcGIS software;
- learn the underlying principles of GIS database construction;
- learn to diagnose and manage errors associated with GIS; and
- learn common spatial data analysis techniques.

Program information is on the *Desire to Learn (D2L)* Lakehead University-Georgian College partnership course shell. Students are encouraged to review the program information.

Class Schedule

Lecture	Mondays and Wednesdays	8:00-9:00pm	N208
Lab	Mondays	2:00-5:00pm	N208

Our *first class* is on Monday Jan 6th, 2020, and our *last class* is on Monday April 6th, 2020
There are no classes on Monday Feb 17th, 2020 (Family Day), or on Study Week: Feb 24-28, 2020, or on April 7th which is Exam Preparation Day

The exam Period runs Wednesday, April 8 to Sunday, April 19, 2020 (Does not include exams April 10-13 for Easter Holidays) with Monday, April 20, 2019 as a contingency day. This course will have an assigned time period for an exam. Further details to be released.

Evaluation/List of Assessments

This course is composed of tests, and assignments. Grading criteria will be provided with each assignment's instructions.

Tests – <ul style="list-style-type: none">• Midterm Exam 1 (10%)<ul style="list-style-type: none">○ Written during class time on <i>Wed Jan 29th</i>○ (multiple choice/'true and false'/'mix and match' + short answer)• Midterm Exam 2 (10%)<ul style="list-style-type: none">○ NOT cumulative○ Written during class time on <i>Mon Mar 2nd</i>○ (multiple choice/'true and false'/'mix and match' + short answer)• Final Exam (30%)<ul style="list-style-type: none">○ NOT cumulative○ Scheduled during exam period○ (multiple choice/'true and false'/'mix and match' + short answer)	50%
Lab assignments - <ul style="list-style-type: none">• Weekly – due every Monday before lab starts at 2pm• Work on them during lab <i>and</i> on your own time	50%
Total	100%

Please note: if you miss one midterm test and receive instructor consideration for it (ex. On medical grounds) then the 10% will be redistributed to your other midterm test (5%) and your final exam (5%) because I do NOT do rewrites. If you miss *both* midterm tests, or one midterm test *and* the exam, then you can NOT pass the course because you have simply missed too much material. If you miss the final exam then you will need to very carefully follow the instructions here: <https://www.lakeheadu.ca/studentcentral/exams-grades/missed-exam-medical-personal>

IN-CLASS ACTIVITIES: An in-lab hands-on assignment completed in class time, testable

Course Resources

Course textbooks can be ordered online through the [Lakehead University bookstore](http://bookstore.lakeheadu.ca/home) (<http://bookstore.lakeheadu.ca/home>). Purchases can be shipped to student home address or Georgian College bookstore on Barrie Campus. For more information, contact [Lakehead University bookstore](http://bookstore.lakeheadu.ca/contact-us) (<http://bookstore.lakeheadu.ca/contact-us>).

Chang, K., 2016. Introduction to Geographic Information Systems, 8th Edition (New York, NY: McGraw-Hill).

Sequence of Topics

This is a tentative schedule of topics and is subject to change. The faculty reserves the right to change/alter the schedule of topics from time to time.

Week/Date	Key Topics	Assigned Readings	Assignments/Tests
Jan. 6-10	• Introduction, Databases; Lab1	• Chapter 1	
Jan. 13-17	• Map Projections; Lab2	• Chapter 2 (2.1-2.3)	Lab1 due M13Jan
Jan. 20-24	• Co-ordinate Systems; Lab3	• Chapter 2 (2.4-2.5)	Lab2 due M20Jan
Jan. 27-31	• Lab4 (I will be away on Monday, the lab is on your own)	• Chapter 4	Midterm Test 1 (10%) on Wednesday Jan 29 th Lab3 due M27Jan
Feb. 3-7	• Raster Data and Vector Data; Lab5	• Chapters 4, and 3	Lab4 due M3Feb
Feb. 10-14	• Editing Spatial Data; Lab6	• Chapter 5	Lab5 due M10Feb
Feb. 17-21 Family Day – No classes Mon Feb. 17	• Geocoding	• Chapter 7	Lab6 due T4Feb (due to Family Day holiday)
Study Week: February 24 to February 28, 2020			
March 2-6	• Overlay and Vector Analysis; Lab7	• Chapter 11 (not 11.1)	Midterm Test 2 (10%) on Monday Mar 2 nd
March 9-13	• Terrain & Raster Analysis; Lab8	• Chapters 12, and 13	Lab7 due M9Mar
March 16-20	• Buffer & Least Cost Path Analysis; Lab9	• Chapter 11.1 and 17	Lab8 due M16Mar
March 23-27	• Story Maps; Lab10		Lab9 due M23Mar
March 30 – April 3	• Work periods for Story Maps; Lab11		Lab10 due M30Mar
April 6	• Presentation of Story Maps; Lab12		Lab11 and Lab12 due M6Apr
Exam Period April 8-19 Easter Holidays – April 10-13	• Day, time and location TBD		Final Exam (30%)

Expectations for Successful Participation

1. Attend every class (and if you cannot, ask a learning partner to help you catch up).
2. Check D2L regularly for announcements, reading and work assignments and course updates.

3. Ask questions if you need clarification (in class; via email; or by telephone). Email will receive a speedier response to questions than leaving a voicemail message. Please ensure that you use your course number and campus in the subject line and “sign” your email with your name and student number.
4. Keep up with your course work. Read the designated material and complete the assigned homework so that you can come to class prepared to discuss the issues and concepts during class time.
5. Submit your assignments by the deadline! You are strongly advised not to wait until the last minute to submit your assignments in case you have computer problems.

Academic and Student Code of Conduct Policies

- Academic and student policies and procedures for those enrolled in the Lakehead-Georgian programs can be found on the Lakehead-Georgian D2L.
- All Lakehead-Georgian programs will follow the Lakehead Regulations as list in the Lakehead University [Academic Calendar](http://csdc.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&loaduseredit s=False) (<http://csdc.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&loaduseredit s=False>). The University Regulations include but are not limited to Registration, Examinations, Reappraisals and Academic Appeals, Special Examinations, Academic Misconduct, Withdraw, and Timely Feedback. Additional Faculty Regulations may also apply. Please review the Academic Calendar.
- The Lakehead University [Student Code of Conduct – Academic Integrity](https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---academic-integrity/node/51262) (<https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---academic-integrity/node/51262>) will apply to all Lakehead-Georgian students regardless of campus of study.
- The Lakehead University [Student Code of Conduct – Appeal Policy](https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---appeal-policy/node/51261) (<https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---appeal-policy/node/51261>) will apply to all Lakehead-Georgian students regardless of campus of study.
- The Georgian College [Student Code of Conduct](http://www.georgiancollege.ca/student-code-of-conduct/) (<http://www.georgiancollege.ca/student-code-of-conduct/>) will apply to the Lakehead-Georgian students studying at the Barrie campus. Additional campus policies of [Sexual Violence Procedure and Protocol](https://www.georgiancollege.ca/about-georgian/campus-safety-services/tab/sexual-violence) (<https://www.georgiancollege.ca/about-georgian/campus-safety-services/tab/sexual-violence>) and [Information Technology Acceptable Use Procedure](http://www.georgiancollege.ca/wp-content/uploads/2-117IT-acceptable-use.pdf) (<http://www.georgiancollege.ca/wp-content/uploads/2-117IT-acceptable-use.pdf>) also apply.
- The Lakehead University [Student Code of Conduct – Non Academic](https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---non-academic/node/51263) (<https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---non-academic/node/51263>) will apply to the Lakehead-Georgian students studying at the Orillia campus.

Plagiarism and Academic Dishonesty

A breach of Academic Integrity is a serious offence. The principle of Academic Integrity, particularly of doing one’s own work, documenting properly (including use of quotation marks,

appropriate paraphrasing and referencing/citation), collaborating appropriately, and avoiding misrepresentation, is a core principle in university study. Students should view the [Student Code of Conduct - Academic Integrity](https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---academic-integrity) (<https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/student-code-of-conduct---academic-integrity>) for a full description of academic offences, procedures when Academic Integrity breaches are suspected and sanctions for breaches of Academic Integrity.

Course Policies

- Course policies on lateness and absence: Late submissions may be accepted at the discretion of the instructor however the late penalty is 10% per day, including weekends. No late submissions will be accepted after your classmates assignments have been marked.
- Please note: if you miss one midterm test and receive instructor consideration for it (ex. On medical grounds) then the 10% will be redistributed to your other midterm test (5%) and your final exam (5%) because I do NOT do rewrites. If you miss *both* midterm tests, or one midterm test *and* the exam, then you can NOT pass the course because you have simply missed too much material. If you miss the final exam then you will need to very carefully follow the instructions here: <https://www.lakeheadu.ca/studentcentral/exams-grades/missed-exam-medical-personal>
- No formal division of the class into groups will be made for labs or assignments, though it is acknowledged you will likely work together at times. Individual (and unique) submissions are expected for each lab exercise and assignment. I expect you to read and understand the University's policy on plagiarism.

Whom to Contact

STUDENT ADVISING (NON-ACADEMIC)	
Becca Allan Advisor, Accessibility and Academic Success Services	Tel: (705) 728-1968 Ext. 5373 Becca.Allan@GeorgianCollege.ca (Georgian, Barrie) Room A143L

Student Services and Supports

Student Advisors:

- Supports your academic and personal goals and growth.
- Helps you enhance your study skills including time management, note taking, reading and test taking
- Creates collaborative academic success plans linking you to campus supports
- Assists with academic tools, platforms, policies, procedure and processes
- Supports you in building a sense of meaning and purpose within the College and local community

- To book an appointment with your advisor go to the **Student Portal (preferred)** and click on the Student Advisor icon on the top left hand corner of your Student Portal page, or call **705-728-1968 Ext. 1307**

Library (<http://library.georgiancollege.ca/main>)

Customer Service

- Off campus access

Research help

- Help finding books, articles and credible sources.
- Using specialty databases.
- Creating a search strategy.

Academic Success (<https://library.georgiancollege.ca/help/contact-academic-success>)

Writing Centre (http://library.georgiancollege.ca/writing_centre)

- Improve your writing.
- Help with citing sources and laying out your paper.

Math Centre (http://library.georgiancollege.ca/math_centre)

- Make sense of math questions.
- Understand concepts and develop skills.

Tutors (<http://library.georgiancollege.ca/tutoring>)

- Further understand course content.
- Build your study practices.

Accessibility Services: (<http://www.georgiancollege.ca/student-life/student-services/accessibility-services/>)

If you are a student experiencing a disability who may require academic accommodations and have not yet registered with Accessibility Services, please contact their office at 705-722-1523 or visit their offices in B110. You must be registered with Accessibility Services to access academic accommodations. Support for those students whose success at college may be affected by a disability include:

- Ongoing support from our Accessibility Advisors including arranging a confidential psychoeducational assessment where required
- Training in the use of specialized computer technology
- Classroom and test accommodations

Testing Services: (<http://www.georgiancollege.ca/student-life/student-services/testing/>)

- Accommodated testing
- Missed/Makeup testing
- Proctoring services are also available for external and Ontario Learn exams

Counselling: (<http://www.georgiancollege.ca/student-life/student-services/counselling/>)

- Free, confidential counselling is available to all students
- Walk in counselling is available on a daily basis Monday to Friday

Career Success: (<http://www.georgiancollege.ca/student-life/student-services/co-op-and-career-services/>)

Career assessments and exploring options

- Job search workshops
- Labour market information
- Resume/cover letter help
- Interview practice
- Graduate employment information
 - Links to job postings and online resource

Campus Safety and Security Syllabus Addendum

Emergency Evacuation

- Evacuate buildings when a fire alarm is activated or an official announcement is given. Review [evacuation guidelines](https://www.georgiancollege.ca/about-georgian/campus-safety-services/tab/fire). (<https://www.georgiancollege.ca/about-georgian/campus-safety-services/tab/fire>)
- Students requiring assistance in emergency situations must inform their faculty during the first week of class.
- Familiarize yourself with all fire exit doors of classrooms and buildings you may occupy.
- Do not re-enter a building until instructions are given by the Fire Department or college personnel.

Lockdown

- Lockdown is initiated when there is a potential or actual violent incident on campus that could result in a serious injury or threat to life.
- Students can download the new safe@georgian app to stay updated on Campus Safety and Security information including lockdown.
- Familiarize yourself with the [College Lockdown procedure](https://www.georgiancollege.ca/about-georgian/campus-safety-services/tab/lockdown) (<https://www.georgiancollege.ca/about-georgian/campus-safety-services/tab/lockdown>)
- Lockdown tests occur each semester.

Resources:

- [Get Out, Hide, Fight Lockdown Video](http://youtu.be/JA8cckMbVDk) (<http://youtu.be/JA8cckMbVDk>)
- Lockdown Model – Get Out, Hide, Fight: Lockdown Tools and Tactics and FAQs. (<http://www.georgiancollege.ca/about-georgian/campus-safety-and-security/lockdown--tab/>)

Unscheduled Campus Closure

Resources:

- [How to find out if your campus is closed](http://www.georgiancollege.ca/about-georgian/campus-safety-services/#how-to-find-out-if-your-campus-is-closed) (<http://www.georgiancollege.ca/about-georgian/campus-safety-services/#how-to-find-out-if-your-campus-is-closed>)
- [Unscheduled Campus Closure Procedure](https://www.georgiancollege.ca/wp-content/uploads/2-102Unscheduled-college-closure-2018.02.10.pdf) (<https://www.georgiancollege.ca/wp-content/uploads/2-102Unscheduled-college-closure-2018.02.10.pdf>)

Timing of Closures/Notification:

Closure	Decision	Communication / Notification*	Notes
College has made the decision to close a campus or location <u>in the morning</u> :	6:00 a.m.	By 6:30 a.m.	If re-opening for noon or evening classes is being considered, this will be mentioned in the message
College closes a campus(s) in the morning and <u>expects to re-open by 12:00 noon</u>	9:30 a.m.	By 10:00 a.m.	Only affects classes beginning at 12 noon or later
Closure expected to continue <u>past 12:00 noon</u>	9:30 a.m.	By 10:00 a.m.	
College intends to <u>re-open for evening classes</u> which commence at 5 p.m. or later	2:30 p.m.	By 3:00 p.m.	
College intends to <u>NOT re-open for evening classes</u> :	2:30 p.m.	By 3:00 p.m.	

**Notification will be made via:*

- College web site
- Radio and television announcements through local and regional media
- College telephone system automated message
- A message will be posted by the LUGC secretariat on the Student Resource D2L page
- Georgian College Facebook site
 - Georgian College Twitter feed
 - Safe@Georgian app