

GEOG*3440 - GIS for Decision-Making

Fall 2024 Course Outline

Section: 01

Credits: 0.50

Land Acknowledgement: Guelph

The University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer respect to our Anishinaabe, Haudenosaunee and Métis neighbours. Today, this gathering place is home to many First Nations, Inuit, and Métis peoples and acknowledging them reminds us of our important connection to this land where we work and learn.

Calendar Description

This course trains students to use geomatics techniques as part of a decision-making process, and to critically reflect on the relationship between geospatial analysis and policy decisions in government, community, and corporate settings. Topics may include: public and participatory GIS; webmapping and data visualization; database design; multi-criteria evaluation; scenario mapping. Students will gain familiarity with open and industry mapping software, apply these in practice to issues such as habitat conservation and sea level rise, and reflect on subjects such as uncertainty that challenge spatial data-driven decision-making.

Prerequisite(s): GEOG*2480

Department(s): Department of Geography, Environment and Geomatics

Lecture Topics

This course covers several key topics on GIS applications for decision making:

- Spatial context of decision making
- GIS for social justice analysis
- GIS for business market analysis
- GIS for environmental and resource analysis
- GIS for health analysis
- GIS for urban planning
- Other topics if time allows

Please note individual readings to support lecture materials will be assigned at the start of each lecture and will be posted in Course link (Website) (<https://courselink.uoguelph.ca/>). Also, the topics and topic order provided above are tentative and may change with the progression of the course. Please check Course link (Website) (<https://courselink.uoguelph.ca/>) for a more updated listing.

Lecture Schedule

TuTh 1pm-2:20pm in FSA*241 (9/5 to 12/13)

The lectures will involve demonstrations and discussions. Guest speakers will be invited to share examples on GIS for decision making in various settings. It is important to attend lectures.

Lab Schedule

You have been assigned to one of the two lab periods. All labs take place in the Hutt Building, Room 231. Your Teaching Assistant (TA) will be available to provide lab instructions and help you during your lab period. The computer facilities in Room 231 will be available outside these times on a first-come, first-served basis during scheduled free times. A schedule will be posted on the door of Room 231.

You should make efforts to attend your assigned lab period. If you miss your assigned lab period, you may attend another lab session if space is available. Note that the TA is NOT available outside lab sessions. It is important to attend lab sessions and seek help during lab sessions. **You may seek help from the TA during lab hours on both Wednesday and Friday.**

Day	Time	Location	Sections
Wednesday	3:30 - 5:20 PM	HUTT231	01
Friday	2:30 - 4:20 PM	HUTT231	02

Instructor Information

Wanhong Yang

Email: wayang@uoguelph.ca

Office Hours:

After lectures from 2:30 to 3:30 pm, Tuesdays and Thursdays

Learning Resources

Required Resources

There is no required textbook for this course. However, there are assigned readings, which will be made available through Course link (Website) (<https://courselink.uoguelph.ca/>). Lectures, labs, and assignments will also be posted to Course link (Website) (<https://courselink.uoguelph.ca/>).

Course Resources

ESRI Academy (<https://www.esri.com/training/>) has extensive resources on learning ArcGIS. You can access these resources by signing in uoguelph ArcGIS organization account via the University Single Sign On.

Campus Resources

If you are concerned about any aspect of your academic program: Make an appointment with a Program Counsellor (<https://www.uoguelph.ca/uaic/programcounsellors/>) in your degree program. If you are struggling to succeed academically: There are numerous academic resources offered by the Learning Commons (<https://www.lib.uoguelph.ca/using-library/spaces/learning-commons/>) including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills.

Course Learning Outcomes

By the end of this course, students will have learned how to:

1. Identify key concepts behind the use of GIS in decision-making
2. Apply these concepts to desktop-based and online GIS analysis including interactive maps
3. Evaluate real-world use cases where GIS supports decision-making
4. Critically assess the roles GIS analysis and maps can play in communicating science, persuading decision-makers, and provoking public dialogue
5. Reflect on the ethical dimensions of GIS analysis and mapping as a professional practice

GIS Webinar Review and Lab Assignment Due Dates

All assignments should be submitted to Course link (Website) (<https://courselink.uoguelph.ca/>) **Dropbox** by **midnight of the due dates**. Late assignments will be assessed a penalty of 10% per day (including weekends).

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

Description	Weighting (%)	Due Date
GIS Webinar Review #1	2%	End of Week 2 (September 20)
GIS Lab #1	15%	End of Week 3 (September 27)
GIS Webinar Review #2	2%	End of Week 4 (October 4)
GIS Lab #2	15%	End of Week 6 (October 18)
GIS Webinar Review #3	2%	End of Week 6 (October 18)
GIS Webinar Review #4	2%	End of Week 8 (November 1)

GIS Lab #3	15%	End of Week 9 (November 8)
GIS Webinar Review #5	2%	End of Week 10 (November 15)
GIS Lab #4	15%	End of Week 12 (November 29)
GIS Lab #5 (FINAL EXAM)	30%	End of Week 14 (December 13)

Method of Evaluation

Evaluation in this course is based on two components: GIS webinar review assignments and GIS lab assignments. Five GIS webinar review assignments are equally weighted at 2% each. Four GIS labs during class period are equally weighted at 15% each and the final GIS lab during the examination period is weighted at 30%.

Grading scheme:

- GIS webinar review: $2\% \times 5 = 10\%$
- GIS labs during class period: $15\% \times 4 = 60\%$
- GIS lab during final exam period: $30\% \times 1 = 30\%$

Last Day to Drop Course

The final day to drop Fall 2024 courses without academic penalty is the last day of classes: November 29

After this date, a mark will be recorded, whether course work is completed or not (a zero is assigned for missed tests/assignments). This mark will show on the student's transcript and will be calculated into their average.

Experiential Learning Component

Experiential Learning (EL) at the University of Guelph means learning through action. EL activities provide students with the opportunity to apply course material to real-world, meaningful contexts.

This course has integrated the following Experiential Learning Components: Research or Scholarly Creation, Course-Integrated Learning (<https://www.uoguelph.ca/experientiallearning/students/search-experiential-learning-opportunities/curricular-and-course-based-opportunities-0/>).

Upon successful completion, this experiential learning course will be reflected on the student's Professional and Career Development Record (PCDR). Learn about the PCDR and experiential learning at www.uoguelph.ca/pcdr (<https://www.uoguelph.ca/experientiallearning/pcdr/>).

CSAHS Academic Misconduct Policy

The *Academic Misconduct Policy* is detailed in the Undergraduate Calendar. The University of Guelph is committed to upholding the highest standards of academic integrity and **it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct** and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Instructors **shall not** determine if academic misconduct has occurred. This is up to the Associate Dean Academic's office. Instructors shall not assign a grade of zero even if they believe that the student has committed some form of academic misconduct (e.g., copied material from a website like CourseHero) on an assignment or exam.

Instructors **can** determine if a student has poorly paraphrased and/or improperly cited material and can provide a grade accordingly as long as this is clearly identified as part of the assessment criteria via a rubric or other assessment tools.

For more information about Academic Integrity resources and how to prevent Academic Misconduct.

Standard Statements for Undergraduate Courses

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The Academic Misconduct Policy (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/>) is outlined in the Undergraduate Calendar.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability. Use of the SAS Exam Centre requires students to make a booking at least 10 days in advance, and no later than the first business day in November, March or July as appropriate for the semester. Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time. For students at the Guelph campus, information can be found on the SAS website. (<https://www.uoguelph.ca/sas/>)

Accommodation of Religious Obligations

If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor within two weeks of the start of the semester to make alternate arrangements.

See the Academic calendar for information on regulations and procedures for Academic Accommodations of Religious Obligations (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/>).

Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all undergraduate students except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in the Undergraduate Calendar - Dropping Courses (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/dropping-courses/>).

Email Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly. e-mail is the official route of communication between the University and its students.

Health and Wellbeing

The University of Guelph provides a wide range of health and wellbeing services at the Vaccarino Centre for Student Wellness (<https://wellness.uoguelph.ca/>). If you are concerned about your mental health and not sure where to start, connect with a Student Wellness Navigator (<https://wellness.uoguelph.ca/navigation/>) who can help develop a plan to manage and support your mental health or check out our mental wellbeing resources (<https://wellness.uoguelph.ca/shine-this-year/>). The Student Wellness team are here to help and welcome the opportunity to connect with you.

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

Recording of Materials

Presentations that are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars (<http://www.uoguelph.ca/registrar/calendars/?index>) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the Undergraduate Calendar for information on regulations and procedures for Academic Consideration. (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>)