

GEOG 5803 – Seminar in Geomatics
DRAFT Course Outline

Winter 2025

Department of Geography and Environmental Studies

Instructors: Peter Pulsifer and Scott Mitchell

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Office Hours: Scott: TBD in Loeb A301B or by request

Peter: TBD in Loeb A327 or by request

Course calendar: See Brightspace / your Carleton Central schedule for details.

Course description: This class aims to provide a seminar venue in which students can explore contemporary issues and/or algorithms in Geomatics (broadly defined), ideally in order to help them develop their thesis proposal. In addition, presentations are given by departmental faculty with strong Geomatics interests, about their research programs. The course topics vary widely according to the student interests in any given year, but typically include at least these broad themes:

- **Issues around the use of and access to spatial data and algorithms,**
- **Advanced sensors and calibration or correction,**
- **Recent developments in spatial data analysis techniques, including spectral, spatial, temporal, semantic and/or uncertainty analysis**
- **Interfacing environmental models with spatial databases**
- **Spatial data management, interoperability and distributed computing**
- **Application of geomatics in the social sciences and humanities**
- **Indigenous mapping, geomatics and representations of space, place and geography**

The exact distribution of topics varies as a function of the guest speakers available, and the backgrounds and interests of the students that enrol. Potential participants are welcome to contact us beforehand to discuss this further, and during the first class meeting we will all discuss your interests and possible influences on the course schedule.

Evaluation:

Student assessment will be split as follows:

- seminar participation (10%)
- project proposal (5%)
- seminar (& possibly practical exercise) presentation (35%)
- responses for guest speaker seminars (5%)
- final project presentation (5%)
- final project take-home exam assignment (40%).

Standing in a course is determined by the course instructor and is subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the dean.

Course Format and Overview

The seminars will explore the major course themes through presentation of papers, possibly short practical exercises, and discussion (signup process starts in the first class; separate schedule handout to follow). We will take turns leading the discussions each week (schedule will be agreed upon over the first two weeks). The final project will ideally contribute towards your own thesis research / academic interests. It can directly stem from the discussion topics in the seminar, or we can agree on other topics within the themes of spatial data analysis and remote sensing. The final projects are due April 7th in terms of being able to present your work to your students, but that will be followed by a take-home exam assignment to report on your work, due April 26.

We encourage students to engage in open communication so that we can all help each other out. Please do not hesitate to contact the instructors if anything is preventing you from participating properly in the course as designed.

Readings:

Readings / a reading list will be distributed for each topic. Students are encouraged to submit readings for consideration when they come across interesting candidates. Please consult with Peter or Scott for suggestions on topics you are interested in for further study, or that you want to use to refresh yourself to better participate in the seminars.

Practical work:

Students are generally expected to provide their own computer for the practical work in this class. It is assumed that all participants are already experienced with at least one spatial data analysis package. If you have not already completed a GIS or remote sensing course, please contact us before registering in this course.

Except for your project, if/when there are practical exercises in this course, they will be informal and based on the topics being considered in the seminar. There will not be any graded practical assignments except for the individual projects. If required, any practical work for this course that requires specialized software (e.g. ArcGIS, TerrSet, PCI etc.) can be performed in a DGES computing lab, or potentially using the CU Desktop virtual access system (<https://carleton.ca/cudesktop/>). For convenience, a virtual machine configured with popular open-source geospatial tools will also be made available. Use of this virtual machine

requires VirtualBox virtualization software (<https://www.virtualbox.org/>) but that is available for free on Windows, macOS, or Linux platforms.

Use of social media (Discord, other chat services, etc.):

If someone in the class sets up a Discord server or other opportunity for class members to chat and discuss class content, please make sure that everyone in the class is aware of the arrangements. If you are not familiar with the platform, please ask your classmates about it. The instructors will not be part of any conversations using such channels, cannot provide support for such platforms, and nothing said there should be considered official communications about the class. All official communications will take place in person and on Brightspace.

PLAGIARISM:

The University Academic Integrity Policy defines plagiarism as “*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.*” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one’s own; and
- failing to acknowledge sources through the use of proper citations when using another’s work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of “F” for the course.

Statement on Student Mental Health:

As a University student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you.

Emergency Resources (on and off campus):

<https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

Requests for Academic Accommodations:

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Academic consideration for medical or other extenuating circumstances: Students must contact the instructor as soon as possible, and preferably before and normally no later than 24 hours after the submission deadline for course deliverables. For short-term illnesses, in place of a doctor's note or medical certificate, students are advised to complete the [self-declaration form](#) available on the [Registrar's Office website](#) to request academic accommodation for missed coursework including exams and assignments. That second link also includes information about longer-term requests.

Students should also consult the [Course Outline Information on Academic Accommodations](#) for more information. Detailed information about the procedure for requesting academic consideration can be found [here](#).

Pregnancy and Family-Status Related Accommodation: Please write to me with any requests for academic accommodation during the first few weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details about the accommodation policy, visit the Equity and Inclusive Communities (EIC) website.

Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details [click here](#).

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, please request your accommodations for this course through the [Ventus Student Portal](#) at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (*if applicable*). Requests made within two weeks will be reviewed on a case-by-case basis. For final exams, the deadlines to request accommodations are published in the [University Academic Calendars](#). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/equity/sexual-assault-support-services>

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for

accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>