

CIVIC TECHNOLOGY AND DIGITAL INFRASTRUCTURES WINTER 2023

GEOG 483 / GEOG 683

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CLASS SCHEDULE

Section	Location	Time	Instructor(s)
GEOG 483 001 [LEC]	EV1 132	Mondays 8:30 a.m. - 11:20 a.m.	Peter Johnson peter.johnson@uwaterloo.ca
GEOG 683 001 [SEM]		Mondays 8:30 a.m. - 11:20 a.m.	
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INSTRUCTOR / TA INFORMATION

Instructor: Peter A. Johnson, Associate Professor, Department of Geography and Environmental Management

Office Hours: Monday 12:30 pm to 2pm, or by appointment (EV1-236 or via MS Teams). To schedule an appointment outside of these hours, please contact me.

E-mail: peter.johnson@uwaterloo.ca (mailto:peter.johnson@uwaterloo.ca)

From Monday to Friday, I make every effort to answer emails within 24hrs. Email sent on the weekend will normally be answered on the following Monday.

COURSE DESCRIPTION

Calendar Description for GEOG 483

A critical approach to the development, implementation, and evaluation of civic technology and smart cities, with a focus on practical implementation considerations. Topics covered include open data, urban data collection and analysis platforms, digital inequalities, locational privacy, and digital infrastructures.

Prereq: Level at least 3A

Calendar Description for GEOG 683

A critical approach to the development, implementation, and evaluation of civic technology and smart cities, with a focus on practical implementation considerations. Topics covered include open data, urban data collection and analysis platforms, digital inequalities, locational privacy, and digital infrastructures. Assignments are used to experiment with course concepts.

Antireq: GEOG 483

Please note that this course is actively being changes from Geoweb and Location-based services to Civic Technology and Digital Infrastructures.

Calendar Description:

A critical approach to the development, implementation, and evaluation of civic technology and digital infrastructures, with a focus on practical implementation considerations. Topics covered include open data, urban data collection and analysis platforms, digital inequalities, locational privacy, and smart cities. Assignments are used to experiment with course concepts.

Prerequisite: 3rd or 4th year standing.

Course Outline:

Technology platforms, particularly mobile, location-based technologies, are dramatically reshaping the way that we interact with each other and our cities. How these technologies are implemented can both enable and challenge urban development, civic participation, and the effective and equitable management of the city. This course identifies the foundations of civic technology and the smart city, including open data, participatory platforms, and sensor infrastructure. Students will be introduced to working with and developing technology from within a government management context, with a focus on critiquing technology application.

LEARNING OUTCOMES

No explicit learning outcomes defined for this course.

TENTATIVE COURSE SCHEDULE

Week #	Topic	Assignment
Week #1 Jan 9	LO1: Course outline, expectations, course structure, textbook. Other sources of information/support for this course	
Week #2 Jan 16	LO2: Basic concepts Who are citizens? What is 'civic'? What is government?	AS1 Handed out

Week #	Topic	Assignment
Week #3 Jan 23	LO3: Enabling technologies. Mobile, big data, open data.	
Week #4 Jan 30	LO4: Forms/Ways to contribute. Hackathons, contests, etc.	AS1 Due
Week #5 Feb 6	LO5: Project Types	AS2 Handed out
Week #6 Feb 13	LO6: What is innovation? Engineering, Design, Product	
Week #7 Feb 20	Reading Week, No Classes	
Week #8 Feb 27	Project check-in – will have a sign up sheet for 5-10 min check ins	AS2 Due AS3 Handed out
Week #9 Mar 6	LO7: The Government Context – policy and regulations	

Week #	Topic	Assignment
Week #10 Mar 13	Lo8 - Making long-term change – what is actually transformative? Core areas of work. Evaluation Continuous improvement	
Week #11 Mar 20	Lo9 – Teams and partnerships L10 – Durability and maintenance	AS3 Due
Week #12 Mar 27	Graduate student presentations	
Week #13 April 3	UG Group project presentations	Final project and presentation due

TEXTS / MATERIALS

Title / Name	Notes / Comments	Required
Textbook: A Civic Technologist's Practice Guide, Cyd Harrell (https://cydharrell.com/book/).	Available from W Store	Yes

W Store link for textbook: <https://wstore.uwaterloo.ca/harrell-cyd-civic-technologist-s-practice-guide.html>

STUDENT ASSESSMENT

Component	Value
Assignment #1 - Characterizing civic tech platforms	15
Assignment #2 - Research paper - elements of success	15
Assignment #3 - Research paper - learning from failure	15
Project check-in	10

Component	Value
Final team project materials + presentation	40
Project team evaluation	5

All assignments to be submitted via dropbox on LEARN. Due dates are listed on the assignment outline. No late submissions are permitted, without contacting the instructor.

ASSIGNMENT SCREENING

Text matching software (Turnitin) will be used to screen assignments in this course. This is being done to verify that use of all material and sources in assignments is documented. In the first week of the term, details will be provided about the arrangements for the use of Turnitin and alternatives in this course. See Administrative Policy below for more information and links.

ADMINISTRATIVE POLICY

COVID Contingencies

This course is designed for in-person delivery, with lectures covering course content, assignment instruction, and lab sections for working with a TA to support you in completing GIS labs. If in-person instruction is not possible due to public health guidelines, the course will shift to synchronous video lectures. Attendance is highly recommended, as lectures will not be recorded. Lab sections will meet synchronously at the assigned time. All video meetings will occur using the course MS Teams team.

Intellectual Property: For further information on IP related to teaching, please see https://uwaterloo.ca/legal-and-immigration-services/sites/ca.legal-and-immigration-services/files/uploads/files/volume_1_issue_3_winter_2018.pdf (https://uwaterloo.ca/legal-and-immigration-services/sites/ca.legal-and-immigration-services/files/uploads/files/volume_1_issue_3_winter_2018.pdf) and the Guidelines for Faculty, Staff and Students Entering Relationships with External Organizations Offering Access to Course Materials, <https://uwaterloo.ca/secretariat/faculty-staff-and-students-entering-relationships-external> (<https://uwaterloo.ca/secretariat/faculty-staff-and-students-entering-relationships-external>) . The following text is recommended:

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University

of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

Co-op interviews and class attendance: Co-op students are encouraged to try and choose interview time slots that result in the least amount of disruption to class schedules. When this is challenging, or not possible, a student may miss a portion of a class meeting for an interview. Instructors are asked for leniency in these situations; but, a co-op interview does not relieve the student of any requirements associated with that class meeting.

When a co-op interview conflicts with an in-class evaluation mechanism (e.g., test, quiz, presentation, critique), class attendance takes precedence and the onus is on the student to reschedule the interview. CEE provides an interview conflict procedure to manage these situations.

Students will be required to provide copies of their interview schedules (they may be printed from WaterlooWorks) should there be a need to verify class absence due to co-op interviews.

Mental Health: The University of Waterloo, the Faculty of Environment and our Departments/Schools consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges - physical and / or emotional. **Please note that help is available.** Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <https://uwaterloo.ca/campus-wellness/> (<https://uwaterloo.ca/campus-wellness/>) is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

All students are encouraged to download the WatSAFE app which is available free through the google and iOS app stores. The WatSAFE app provides on- and off-campus contacts for students in distress, including international students, and other information related to campus safety and security.

Religious Observances: Students need to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Communications with Instructor and Teaching Assistants: All communication with students must be through either the student's University of Waterloo email account or via LEARN. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

Recording lecture: Use of recording devices during lectures is only allowed with explicit permission of the instructor of the course. If allowed, video recordings may only include images of the instructor and not fellow classmates. Posting of videos or links to the video to any website, including but not limited to social media sites such as: facebook, twitter, etc., is strictly prohibited.

UNIVERSITY POLICY

Academic integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check [the Office of Academic Integrity](https://uwaterloo.ca/academic-integrity/) (<https://uwaterloo.ca/academic-integrity/>) for more information.]

Grievance: A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70, Student Petitions and Grievances, Section 4](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70>) . When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for their actions. [Check [the Office of Academic Integrity](https://uwaterloo.ca/academic-integrity/) (<https://uwaterloo.ca/academic-integrity/>) for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71>) . For typical penalties, check [Guidelines for the Assessment of Penalties](https://uwaterloo.ca/secretariat/guidelines/guidelines-assessment-penalties) (<https://uwaterloo.ca/secretariat/guidelines/guidelines-assessment-penalties>) .

Appeals: A decision made or penalty imposed under [Policy 70, Student Petitions and Grievances](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70>) (other than a petition) or [Policy 71, Student Discipline](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71>) may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to [Policy 72, Student Appeals](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72) (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72>) .

Note for students with disabilities: [AccessAbility Services](https://uwaterloo.ca/disability-services/) (<https://uwaterloo.ca/disability-services/>) , located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.