

## ARCH 684 - Winter 2022

### Critical Engagements with Urban Technology

#### (Or - better smart cities)

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Instructor: Maya Przybylski // mmprzyby@uwaterloo.ca

#### Class Meeting Time

Tuesdays: 9:30am – 12:30pm

Location - LOFT

#### Office hours

by appointment In-Person or via MS-TEAMS

### TERRITORIAL ACKNOWLEDGEMENT

We acknowledge that the School of Architecture is located on the traditional territory of The Neutral, Anishinaabeg and Haudenosaunee peoples. The University is situated on the Haldimand Tract, the land promised to the Six Nations that includes 10 kilometres on each side of the Grand River. (see references here: <https://uwaterloo.ca/engineering/about/territorial-acknowledgement>)

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### COURSE DESCRIPTION

This course strives to establish a productive space to learn about and speculate on how to support critical engagements with urban technology. It focuses on a growing praxis in which architects are increasingly bundling digital components together with physical assemblies in their pursuit of responsive (or sentient, adaptive, interactive, smart) architecture where hardware and software work together with physical assemblies to mediate the physical environment in real time.

When we think about technologically mediated urban environments or projects, two narratives dominate: On the one hand, techno-utopian hype propels visions of optimized, sustainable, frictionless urbanisms, on the other hand, singularly pessimistic accounts of unjust algorithms and digital surveillance eclipse technology's potential in supporting socially minded urban transformation. This course is situated in the territory between these opposing poles – embracing technology as a powerful tool with the capacity to address the needs of citizens while simultaneously recognizing technology's incessant capacity to undermine efforts to creating a more just world.

The course begins with an overview of histories and futures of the smart city\* and technologically mediated urban environments more broadly before examining a suite of perspectives supporting critical engagements with urban tech. A general overview of theories and practices of critical design - with encounters engaging media theory, design justice, critical data practices and speculative design among others - will offer design-oriented approaches working to make *better smart cities*. Structured as a collaborative workshop, students will demonstrate their knowledge of course materials through reading discussions, writing, case study analysis, and speculative design.

*\*smart city is used as a short hand here. As part of the course, we will unpack this term from many perspectives*

## COURSE GOALS & LEARNING OUTCOMES

The primary course objective is to foster critical engagements with technologically mediated built environments and is achieved by the following pairings of activities and outcomes:

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course readings and discussions will establish a shared foundation of course topics and themes

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an analytical exercise will have students develop and apply critical frameworks to situate urban tech projects in terms of social, cultural, and environmental impacts

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the speculative, critical course project enables students to identify a problem or opportunity and engage with it through critical design methods

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## COURSE STRUCTURE

The course is structured as a collaborative workshop where student projects align with course themes and provide an applied context through which to engage course topics. Three types of activities are planned during class time: 1) *Instructor Presentations* will cover the general positioning of the course themes as well as elaborate on project briefs and other details. 2) *Student-Led Reading Discussions* will give the class space to review, discuss and reflect on key texts shaping critical engagements with urban technology. 3) *Student Project Presentations* will allow students to share and collect feedback on their course project.

**Students are encouraged to work in pairs for the course project. Leading Reading Discussions will also be done in groups.**

## COURSE REQUIREMENTS & EVALUATION:

The course grade will be based on the following activities:

Reading Discussions *	Specifications Grading	50%
Course Project *	Instructor-graded	40%
Participation	Self-Evaluated	10%

\*Additional documents describing detailed expectations and evaluation for Reading Discussions and the Course Project components will be distributed on the first day of class.

The Reading Discussion course component will use a Specification Grading model – which is intended to increase your own agency in determining your grades by making explicit routes students can take to achieve certain grades while simultaneously shifting the focus to learnings rather than performance. The project brief will outline a series of “pathways” for engaging the components’ activities/requirements where each pathway leads to a specific grade. You decide what you want to get out of the course and how much effort you want to put in, and then receive that grade. Details of the spec grading implementation are described in the supplemental brief.

The Course Project course component will follow a more normative evaluation model where presentations and other deliverables will be evaluated by the instructor according to grading rubrics detailed on the supplemental brief for the course project component.

The Participation course component will be self-evaluated by students directly. Students will be asked to reflect on their levels of engagement across course sessions and complete a self-assessment form at the end of the term.

## REQUIRED TEXT

All required readings will be available through the UW-Library system or digital [course reserves](#). Direct links are provided in the supplemental brief.

**TOPICS & SCHEDULE**

W1	January 11	Course Intro
W2	January 18	Reading Seminar HISTORIES AND FUTURES 1 Laing / Picon / Mattern / Ratti response due Jan 17 @ 10pm
W3	January 25	Reading Seminar HISTORIES AND FUTURES 2 Gabrys / Green / Roche et al. response due Jan 24 @ 10pm
W4	February 1	Reading Seminar CRITICAL PERSPECTIVES 1 - GreenField / Benjamin / Costanza-Chock response due Jan 31 @ 10pm
W5	February 8	Reading Seminar CRITICAL PERSPECTIVES 2 - Loukissas / Data and Society / O'Neil / Mattern response due Feb 7 @ 10pm
W6	February 15	Project Presentations PROJECT - PART 1 - PRESENTATIONS / SUBMISSION DUE @ 9:30AM Schedule TBD
-	February 22	READING WEEK
W7	March 1	Reading Seminar / Film Viewing CRITICAL PERSPECTIVES 3 - Costanza-Chock / Buolamwini response due March 2 @ 10pm (notice shift- due to film viewing in class)
W8	March 8	Independent Work Session Maya away / No class meeting
W9	March 15	Reading Seminar DESIGN RESPONSES 1 - Malpass / Di Salvo / Loukissas / Verhoeff et al response due March 14 @ 10pm
W10	March 22	Reading Seminar DESIGN RESPONSES 2 - Sheppard / Dunne & Raby / DiSalvo response due March 21 @ 10pm
W11	March 29	Project Presentations PROJECT - PART 2 - PRESENTATION DAY 1 / SUBMISSION DUE @ 9:30AM Schedule TBD
W12	April 5	Project Presentations PROJECT - PART 2 - PRESENTATION DAY 2 / SUBMISSION DUE @ 9:30AM Schedule TBD
-	April 10	PROJECT REPORTS DUE - VIA LEARN @ 10PM

**OFFICIAL BUSINESS****TEACHING PLATFORMS & SUPPORT**

To organize materials and communication outside of weekly in-person sessions, we will use the following:

**LEARN** – Official communication, work submission, and grade recording and release.

**MS TEAMS** – Used for supplementary discussions outside of in-person class time and as our on-line format for times of remote learning. Students will be added to the course team in the first week of class.

**COVID-19 SPECIAL STATEMENT**

Given the continuously evolving situation around COVID-19, students are to refer to the University of Waterloo's developing information resource page (<https://uwaterloo.ca/coronavirus/>) for up-to-date information on academic updates, health services, important dates, co-op, accommodation rules and other university level responses to COVID-19.

If course activities are disrupted due to COVID-related UW mandated restrictions, the course will continue, albeit in an on-line environment. If in-person attendance is restricted or eliminated entirely we will pivot to using MS-TEAM to carry out remote class meetings.

Students who may be absent due to self-isolation requirements will be able to join the class remotely. This is a special consideration extended to those required to self-isolate by public health guidelines. Students must inform the instructor of this at least 24hrs prior to class meetings so that online access can be arranged. The course will also pivot to online meetings if the instructor faces any self-isolation requirements.

**LATE WORK**

Students have a token system available for the Reading Reflection submissions in the Reading Discussions course component. Specifically, a token is an opportunity to discuss a missed or failed reading reflection with the instructor and submit or revise the task within one week of the original due date. If you must miss a deadline for whatever reason or receive a mark of "fail", you have two "tokens" to use over the term. Tokens can only be used on deadlines associated with Reading Reflection Submissions.

Late work will not be accepted (i.e. will receive 0%) for other course components as the remaining deliverables are scheduled presentations and these components need to be completed on the day they are planned.

Only in the case of a justified medical or personal reason will these penalties be waived, and only if these have been officially submitted to the [Graduate Student Services Co-Ordinator](#) (Tina Davidson) and accepted by the Graduate Office.

Students seeking accommodations due to COVID-19, are to follow Covid-19-related accommodations as outlined by the university here: (<https://uwaterloo.ca/coronavirus/academic-information/graduate-student-information>).

**MENTAL HEALTH SUPPORT**

All of us need a support system. We encourage you to seek out mental health supports when they are needed. Please reach out to Campus Wellness (<https://uwaterloo.ca/campus-wellness/>) and Counselling Services (<https://uwaterloo.ca/campus-wellness/counselling-services>).

We understand that these circumstances can be troubling, and you may need to speak with someone for emotional support. Good2Talk (<https://good2talk.ca/>) is a post-secondary student helpline based in Ontario, Canada that is available to all students.

## EQUITY, DIVERSITY AND INCLUSION COMMITMENT

At the School of Architecture, we are committed to foster and support equity, diversity and inclusion. We recognize however, that discrimination does occur, sometimes through an isolated act, but also through practices and policies that must be changed. If you experience discrimination, micro-aggression, or other forms of racism, sexism, discrimination against LGBTQ2S+, or disability, there are different pathways to report them:

A) If you feel comfortable bringing this up directly with the faculty, staff or student who has said or done something offensive, we invite you, or a friend, to speak directly with this person. People make mistakes and dealing them directly in the present may be the most effective means of addressing the issue.

B) you can reach out to either the [Undergraduate office](#), [Graduate office](#), or [Director](#) (Anne Bordeleau). If you contact any of these people in confidence, they are bound to preserve your anonymity and follow up on your report.

C) You may also choose to report centrally to the Equity Office. The Equity Office can be reached by emailing [equity@uwaterloo.ca](mailto:equity@uwaterloo.ca). More information on the functions and services of the equity office can be found here: <https://uwaterloo.ca/human-rights-equity-inclusion/about/equity-office>.

D) [Racial Advocacy for Inclusion, Solidarity and Equity](#) (RAISE) is a student-led Waterloo Undergraduate Student Association (WUSA) service launching in the Winter 2019 term. RAISE serves to address racism and xenophobia on the University of Waterloo campus with initiatives reflective of RAISE's three pillars of Education and Advocacy, Peer-to-Peer Support, and Community Building. The initiatives include but are not limited to: formal means to report and confront racism, accessible and considerate peer-support, and organization of social events to cultivate both an uplifting and united community. You can report an incident using their [online form](#).

## ACADEMIC INTEGRITY, GRIEVANCE, DISCIPLINE, APPEALS AND NOTE FOR STUDENTS WITH DISABILITIES:

**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 for more information.]

**Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4. 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 his/her actions. [Check the Office of 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. For typical penalties, check Guidelines for the Assessment of Penalties.

**Appeals:** A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72, Student Appeals.

**Note for students with disabilities:** AccessAbility 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 the alternate assignment.