

ARCH 473 Technical Report

Course Information

Spring 2023

ARCH 473 - 001 Technical Report

Units: 0.5 units

Monday/Thursday 9:30AM - 12:20PM and 1:30PM - 5:20PM

Monday 6:00PM - 8:50PM (when required)

Course instructor: Jaliya Fonseka, jafonseka@uwaterloo.ca

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>)

Course Description

Students will investigate and report on technical issues as they relate to the development of the comprehensive building project in the parallel Design Studio. Innovation and integration in architectural design will be stressed with respect to structure, building envelope, environmental systems, health and life safety, movement systems, site planning and the integration of information technology.

Learning Objectives

By the end of the course, students will be able to:

- Evaluate the function, intent and appropriateness of building design with its associated environmental impact in a given site.
- Explain how to minimize the consumption of resources through improving a building's energy performance, materials technology, and life cycle analysis.
- Integrate proper structural design while describing assemblies and connections in addition to addressing gravity and lateral load resisting systems and stability issues.
- Demonstrate an adequate selection of mechanical systems, water, and sanitary management.
- Explore the principles, techniques, and methods that correspond to enclosure design and sustainability measures.

Required Text

Short readings along with links to selected online resources will be provided throughout the term and assigned regularly. Guest lecturers and critics may assign readings before they present. Familiarity with all of the above are required for class discussion and evaluation.

Course Requirements and Assessment

P2 – Technical Report / Design Development

The second phase of the term calls for architectural development driven by the integration of sustainability goals in Arch 473. This will include structural, mechanical, and environmental systems, life cycle strategies as well as development of enclosure details to work towards the carbon net zero benchmark.

100% of Arch 473 grade.

Assigned on Monday June 5, 2023.

Deadline for submission on LEARN on Friday June 30, 2023 at 10:00 PM

Technical Report includes:

1. Life Cycle (10%)
2. Whole Life Cycle Carbon Emissions Estimate (5%)
3. Site Design (10%)
4. Systems (30%)
5. Structure (20%)
6. Enclosure (25%)
7. Appendix (not graded – but required)

* Note: Detailed descriptions for each of these components of the Technical Report are provided in the P2 Assignment handout.

Topics & Schedule

Course hours are Mondays and Thursdays from 9:30am-12:30pm and 1:30pm–5:30pm EST on days as indicated on the term schedule. **Arch 473 has dedicated time on Monday evenings from 6:00pm-8:50pm, if/when needed.** Students are required to be working and available for sharing and discussion, attend and participate in all scheduled reviews, presentations, lectures, and events that occur during these hours. Detailed schedules will be sent on a weekly basis.

Course Delivery Platforms & Communication

EMAIL – Email will be the primary mode of day-to-day communication.

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

MS TEAMS – Used for supplementary discussions outside of in-person class time (if needed).

COVID-19 Special Statement

Given the on-going 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.

Fair Contingencies for Emergency Remote Teaching

To provide contingency for unforeseen circumstances, the instructor reserves the right to modify course topics and/or assessments and/or weight and/or deadlines with due and fair notice to students. In the event of such challenges, the instructor will work with the Department/Faculty to find reasonable and fair solutions that respect rights and workloads of students, staff, and faculty.

Late Work

Assignments that are handed in late will receive an initial penalty of 20% on the first calendar day late and a 5% penalty per calendar day thereafter. After 5 calendar days, the assignment will receive a 0%.

Only in the case of a justified medical or personal reason will these penalties be waived. For verified health concerns, a [Verification of Illness Form \(VIF\)](#) must be submitted to your instructor who will coordinate with the Academic Services Coordinator and Associate Director, in the Undergraduate Office. Personal extenuating circumstances need to be communicated to your instructor who will coordinate with the Undergraduate Office as well. This is not the same as the AccessAbility Accommodations or the [short term absence](#) process.

Information on COVID-19 is available [here](#).

Passing Grades

The standard minimum passing grade in each ARCH course is 50% with the following exceptions: the minimum passing grade is 60% for all studio courses (ARCH 192, ARCH 193, ARCH 292, ARCH 293, ARCH 392, ARCH 393, ARCH 492, and ARCH 493). Grades below the specified passing grade result in a course failure.

CACB Student Performance Criteria

The BAS/MArch program enables students to achieve the accreditation standards set by the Canadian Architectural Certification Board as described [here](#). This course addresses the CACB criteria and standards that are noted on the Accreditation page of the School of Architecture [website](#).

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

The School of Architecture is committed to foster and support equity, diversity, and inclusion. If you experience discrimination, micro-aggression, or other forms of racism, sexism, discrimination against 2SLGBTQ+, or disability, there are several pathways available for addressing this:

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 (DirectorArchitecture@uwaterloo.ca). If you contact any of these people in confidence, they are bound to preserve your anonymity and follow up on your report.

C) You can choose to report centrally to the Equity Office. The Equity Office can be reached by emailing 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 their 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 their 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 they have 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.