COURSE INFORMATION

Course Name:	Introduction to Civil Engineering Course Code: CIV ENG 2X03
Session Offered:	Fall 2026
Calendar Description:	Introduction to civil engineering practice and professional experience: understanding the importance of civil engineering works to society, project and cost related risks, interaction of infrastructure with communities and the environment, applications of common industry software.
Pre-Requisites:	Registration in Level II of a Civil Engineering program
Instructor:	Lily Wilson (wilsol13@mcmaster.ca)
Teaching Assistants:	Haïfaa Chutoo(G) (chutooh@mcmaster.ca) Mostafa Fouad(G) (faroukm@mcmaster.ca) Carmen Huynh(G) (huynhc13@mcmaster.ca) Dominic Lasica(G) (lasicad@mcmaster.ca) Jana Mohamed (UG) (mohamj27@mcmaster.ca) Allana Santos(G) (siqueira@mcmaster.ca) Simon van Rooyen(UG) (vanrooys@mcmaster.ca)
Lecture Hours:	Tuesdays, 1:30-2:20 pm (every week), Thursdays 12:30-2:20 pm (some weeks)
Field Trips:	Thursdays, 12:30-4:20 pm (some weeks)
Computer Labs:	Tuesdays, 8:30-11:20 am or 2:30-5:20 (some weeks)
Recordings and Notes:	In planning this course, my focus is on creating a high-quality learning environment in the space and times that we meet in person. Written notes and recordings may be posted to A2L as appropriate. The purpose of any such materials is to complement the in-class experience, not to replace it. If you are unable to attend class, please start by asking your classmates for help, supplementing that with material posted online, and then asking the instructor and TAs for further assistance as needed. Any recorded lectures may be posted on an unlisted website for use by current and future students. Please contact me about any concerns you may have about this. If I am sick enough to need to stay home but am well enough to teach, I will use the course website to announce that lecture will use Zoom and I will provide you a link.
Website:	We will use Avenue to Learn (http://avenue.mcmaster.ca). Please sign up immediately because important information and course documents will be posted there. It is your responsibility to check the course website regularly.
Email:	**The general email address for this course is CE2X03@mcmaster.ca.** You can expect a response from TAs within 1 business day, or from the instructor within 3 business days. **Please start the subject line with "2X03:" to make your email stand out.**
Instructor Office Hours:	Available upon request. Please send an email to arrange a time.
Accommodations:	In keeping with university policy (see Section 7), I am happy to work with you to arrange accommodations that may be needed to help you achieve your learning goals for this course. Please do not be afraid to reach out to discuss your unique circumstances.

1. COURSE OBJECTIVES

The fundamental purpose of this course is to grow your imagination about civil engineering: the diverse activities that comprise this discipline, and the diverse people who undertake those activities. By seeing common practices in civil engineering, listening to the stories of people who practice civil engineering, visiting places where civil engineering is done, and gaining introductory experience with some of the computational tools that civil engineers use, I hope that you will finish this course with a clearer picture of the role that civil engineering plays in our society, and be more prepared to contribute to this wonderful profession!

Section 3 of this Course Outline provides a preliminary schedule for activities in this course, and Section 5 provides a more detailed list of the Learning Outcomes. The graphical outline below symbolizes how civil engineers work as part of a large group to design the things that are at the core of **civil**ization, and how the activities of this course are intended both to give you a window into some aspects of what civil engineers do, while also increasing your recognition of how much more there is to learn.



2. COURSE SPECIFIC POLICIES

My goal in every class is to provide the best possible environment for you to develop your understanding of civil engineering. We have a big class, so it will take everyone's cooperation to create this environment. Some specific expectations I have of you are:

- **Arrive on time.** Plan for the possibility of transport or other delays. If you are late to class, minimize the disruption you cause by quickly and quietly finding a seat near the aisle. For off-site activities, late arrival to the designated meeting point may result in you missing the activity and receiving a grade of zero for the deliverable.
- **Come prepared to participate.** Check the course website before coming and plan to engage actively in every class. For example, this might include having a way to take notes, appropriate PPE, software ready to go, or a device that allows your attendance to be recorded.
- **Be quiet during class**, except when asked to speak with your classmates. Otherwise, if you have a question, please raise your hand so that everyone can benefit from your question and the answer. This includes guest lectures, site visits, and other course activities.
- **When in class, only use electronic devices for class purposes.** On site visits, using electronic devices for purposes other than taking notes is not permitted because it can be a safety hazard. Please remove headphones during all class activities.
- **Speak and write with respect.** Use your words and actions to build other people up; avoid saying or doing things that are likely to be considered offensive.

If you are disrupting the class, I may have to ask you to leave the class. If you are bothered by the behaviour of other students, please let me know so that I can address your concerns.

Required Materials

While there are no required books for this course, you will need to have access to the following personal protective equipment (PPE) for some off-site activities:

- **Safety Boots:** must have a green patch indicating compliance with CSA Standard Z195 (Grade 1 protective toe) and a minimum ankle height of 6"
- **High-Visibility Vest**
- **Hard hat:** must be CSA Z94.1-compliant (at least Type 1, Class C)

The software you are required to use for the course is available through University licences, with more detailed information to be provided for each software component throughout the term.

Extreme Circumstances and Other Modifications

In accordance with McMaster Policy as noted in Section 8, I may need to adjust the course schedule during the term. If this happens, the class will be given reasonable notice, an explanation, and an opportunity to comment, although I will not necessarily make changes in response to comments received. It is your responsibility to stay informed of changes by attending all lectures and by checking the course website regularly.

Academic Integrity and Generative AI

The deliverables for this course are varied, and the expectations around academic integrity depend on the deliverable being considered. In general, anything that you expect to receive academic credit for must be your own work. As an example of the Academic Integrity Policy (Section 8), you are welcome to discuss the process for preparing deliverables with others, but copying some or all of the deliverable from another student is considered an example of academic dishonesty. Sharing your material with someone else to enable them to copy it is also considered academic dishonesty. Attempting to receive credit for attending an activity that you do not attend is also an example of academic dishonesty, as is helping someone else to do so.

Students may freely use generative AI in this course so long as the use of generative AI is referenced and described in the corresponding Avenue quiz question (self-guided tour), Avenue submission text box (software assignments), or cover page of the submitted deliverable (guest lecture reflections and site visit reports). Use of generative AI without citation will constitute academic dishonesty. It is the student's responsibility to be clear on the expectations for citations and references and to do so appropriately.

Equity, Diversity, and Inclusion

In keeping with the Anti-Discrimination Policy (Section 8), I want to note that you have a right to an environment that is free of discrimination and harassment. If you have any concerns, please do not hesitate to contact me or the Equity and Inclusion Office (https://equity.mcmaster.ca/contact-us/). Like many people, I am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone, including me) that made you feel uncomfortable, it is always an option to speak to me about it or to send anonymous feedback.

3. APPROXIMATE SCHEDULE

The following table shows the schedule for the course at the time this Outline was produced. It is intended to give you a general idea of what you can expect in the course, recognizing that it may change, particularly because it relies heavily on other people to host site visits and give guest lectures.

Week of	Tuesday Lab	Tuesday Class	Thursday Class
07-Sep		***Core Lecture 1*** Welcome to 2X03	***Software 1*** Excel
14-Sep	**L01/L03** Excel	***Core Lecture 2*** Your PLP Toolkit	***Walking Tour***
21-Sep	**L02** Excel	***Core Lecture 3*** Your Trip Report Toolkit	***Software 2*** AutoCAD
28-Sep	**L01/L03** AutoCAD	***Core Lecture 4*** Your Guest Lecture Toolkit	***Site Visit 1 & 2***
05-Oct	**L02** AutoCAD	***Guest Lecture 1***	***Site Visit 3 & 4***
12-Oct	**Reading Week**		
19-Oct		***Guest Lecture 2***	***Software 3*** TBD
26-Oct	**L02** Software 3	***Guest Lecture 3***	***Site Visit 5 & 6***
02-Nov	**L01/L03** Software 3	***Core Lecture 5***	***Software 4*** TBD
09-Nov	**L02** Software 4	***Guest Lecture 4***	***Site Visit 7 & 8***
16-Nov	**L01L03** Software 4	***Guest Lecture 5***	***Software 5*** SAP2000
23-Nov	**L02** SAP2000	***Guest Lecture 6***	Hold for Postponed Activities
30-Nov	**L01/L03** SAP2000	***Core Lecture 6*** Reflecting on 2X03	Hold for Postponed Activities
06-Dec		***Core Lecture 7*** Your Next Chapter	**All Done!**

- **Software Assignments** are due at 11:59 pm 1 week after your scheduled lab.
- **Guest Lecture Reflections** are due at 11:59 pm 1 week after the lecture.
- **Site Visit Reports** are due at 11:59 pm 2 weeks after your visit.

4. ASSESSMENT OF LEARNING	Opportunities	Expected	Max Points Each	Max Points Total
Self-Guided Tour (1 Off-Site Badge)	1	1	150	150
Professional Liaison Programme (1 Off-Site Badge, 1 Discipline Badge)	1	1	250	250
Site Visit Reports (1 Off-Site Badge, 1-2 Discipline Badges)	2	2	400	800
Software Assignments (1 Software Badge, 0-1 Discipline Badges)	5	3-4	200	800
Guest Lectures (1 GA Badge, 1 Discipline Badge)	6	attend 6, reflect on 3-4	20+80	440
Participation in an Engineering Club or Team (0 Badges)	Many!	0-1	20	20
Additional Opportunities (0 Badges)	TBD	2+	20	TBD

Grading Configuration: The course will be graded on a points system, rather than a traditional percentage system. There are two requirements for achieving the assigned grades. First, the student must achieve the number of points allocated to a certain letter grade, similar to a standard grading scheme. Second, certain badges are awarded for a passing grade (at least 50%) on each deliverable, and there are minimum badge requirements to achieve each letter grade; this is to allow students to select which deliverables to complete while still ensuring a breadth of experiences in the course. The requirements for both categories are shown below:

12-Point Grade	Letter Grade	# Points	Discipline Badges	Off-Site Badges	Software Badges	GA Badges
12	A+	at least 2300	1 each (4 total)	4	4	8.1, 12.1, **and** 2 others
11	A	at least 2200	1 each (4 total)	4	4	8.1, 12.1, **and** 2 others
10	A-	at least 2100	1 each (4 total)	4	4	8.1, 12.1, **and** 2 others
9	B+	at least 2000	at least 3 different	4	3 or more	8.1, 12.1, **and** 1-2 others
8	B	at least 1900	at least 3 different	4	3 or more	8.1, 12.1, **and** 1-2 others
7	B-	at least 1800	at least 3 different	4	3 or more	8.1, 12.1, **and** 1-2 others
6	C+	at least 1700	at least 3 different	3 or more	3 or more	at least 8.1 **and** 12.1
5	C	at least 1600	at least 3 different	3 or more	3 or more	at least 8.1 **and** 12.1
4	C-	at least 1500	at least 3 different	3 or more	3 or more	at least 8.1 **and** 12.1
3	D+	at least 1400	at least 2 different	2 or more	2 or more	8.1 **or** 12.1, and at least 1 other
2	D	at least 1300	at least 2 different	2 or more	2 or more	8.1 **or** 12.1, and at least 1 other
1	D-	at least 1200	at least 2 different	2 or more	2 or more	8.1 **or** 12.1, and at least 1 other
0	F	failing to meet any one or more of the requirements for a D- constitutes failure of the course				

Notes:

1. **Changes:** It is possible that some assessment opportunities will be removed, modified, or added during the term. If this happens, the class will be given reasonable notice, an explanation, and an opportunity to comment, although

I will not necessarily make changes in response to comments received. It is your responsibility to stay informed of changes by attending all lectures and by checking the course website regularly.

2. **Submission:** All assignments will be submitted in the designated dropboxes on the course website.
3. **Late Submissions:** Late submissions will be subject to a penalty of 20% of the maximum points available for that deliverable per day (or portion thereof). For example, a Software Assignment that is received at 12:01 am on the day after it is due (i.e., 2 minutes late) will receive 40 fewer points than if it had been received on time.
4. **Extra Submissions:** A maximum of 4 Software Assignments and 4 Guest Lecture Reflections may be submitted for credit. If you submit more than 4, your cover page must indicate which prior submission you intend to replace (i.e., you will not receive the points or badges from that submission); otherwise, your extra submission will not be graded. Although you can only receive credit for writing 4 Guest Lecture Reflections, you can still receive credit for attending all 6 guest lectures.
5. **Administrative Fee:** For each deliverable, failure to follow all instructions can result in a repeatable administrative fee of up to 10% of the possible points. Administrative fees are at the discretion of the TAs and can be appealed to the course instructor.
6. **Discussions of Feedback:** You are encouraged to discuss the feedback that you receive on any deliverable with your TAs or the course instructor. If you believe that you have received an incorrect grade on any deliverable, you must return it to the person who marked it, together with a written explanation of why you believe the grade was incorrect, within one week of the day that the grade was returned. This may result in the grade increasing, decreasing, or remaining the same.
7. **MSAFs:** In accordance with university policy (see Section 7), the McMaster Student Absence Form (MSAF) may be used to request relief for missed work, and must be followed promptly by an email from the student. A separate document on the course website summarizes the typical accommodations that are available with an MSAF. When accommodations are made, they will be confirmed by email from the course instructor; if you have not received email confirmation from the instructor, you should assume that your MSAF has not been received or processed.
8. **Details:** More information is available in the grading section of the course website, and on the detailed instructions for each assessment.

5. LEARNING OUTCOMES

When you have successfully completed this course, you will be able to:

- Conduct basic analyses using software packages that are common in civil engineering [CEAB Indicator 5.2]
- Apply fundamental professional written communication skills through formatted reports, email communications, and engineering drawings [CEAB Indicator 7.2]
- Describe the duty of a Professional Engineer to the public, client, employer, and/or the profession. [CEAB Indicator 8.1]
- Describe potential risks of civil engineering projects such as cost, health and safety, technical complications, and resource availability [CEAB Indicator 11.3]
- Discuss how a civil engineer can influence society and the environment, including by contributing to the UN Sustainable Development Goals and to Indigenous Reconciliation [CEAB Indicators 9.1, 9.2]
- Describe what you could do with your civil engineering degree, and what it would take to get there! (It's okay if you don't have one single answer for this – even better if you have many!) [CEAB Indicator 12.1]

By achieving these objectives, you will have a good foundation for your program in civil engineering!

Graduate Attributes and CEAB Indicators

Through this course, you will develop in the following graduate attributes and indicators:

5. Use of Engineering Tools (An ability to create, select, apply, adapt, and extend appropriate techniques, resources, and modern engineering tools to a range of engineering activities, from simple to complex, with an understanding of the associated limitations.)
   5.2 Successfully uses engineering tools.
7. Communication Skills (An ability to communicate complex engineering concepts within the profession and with society at large. Such abilities include reading, writing, speaking and listening, and the ability to comprehend and write effective reports and design documentation, and to give and effectively respond to clear instructions.)

7.2 Composes an effective written document for the intended audience.

8. Professionalism (An understanding of the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest.)

8.1 Describes the duty of a Professional Engineer to the public, client, employer, and the profession.

9. Impact of engineering on society and the environment (An understanding of the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest.)

9.1 Evaluates the environmental impact of engineering activities, identifies uncertainties in decisions, and promotes sustainable design.

9.2 Evaluates the social impact of engineering activities, including health, safety, legal, cultural, and other relevant factors, and identifies uncertainties in decisions.

11. Economics and project management (An ability to appropriately incorporate economics and business practices including project, risk, and change management into the practice of engineering and to understand their limitations.)

11.3 Identifies, characterizes, assesses, and manages risks to project success.

12. Life-Long Learning (An ability to identify and to address their own educational needs in a changing world in ways sufficient to maintain their competence and to allow them to contribute to the advancement of knowledge.)

12.1 Critically assesses one's own educational needs and opportunities for growth.

6. HEALTH AND SAFETY

The Faculty of Engineering is committed to McMaster University's Workplace and Environmental Health and Safety Policy which states: "Students are required by University policy to comply with all University health, safety and environmental programs and policies". It is your responsibility to understand McMaster University's Risk Management system, which is supported by a collection of Risk Management Manuals (RMMs) that contain programs and policies in support of the Risk Management System. The RMMs are available from https://hr.mcmaster.ca/employees/health_safety_well-being/our-safety/risk-management-manuals-rmms/.

It is also your responsibility to follow any specific Standard Operating Procedures (SOPs) provided for specific experiments (see course lab manuals) and the laboratory equipment https://www.eng.mcmaster.ca/sites/default/files/civil_lab_health_and_safety_manual.pdf

Additionally, McMaster University's workplace health and safety guidance related to COVID-19 must always be followed (available from https://hr.mcmaster.ca/resources/covid19/workplace-health-and-safety-guidance-during-covid-19/).

The safety requirements for each location you visit may come with different requirements and expectations. The expectations specific to each site visit will be communicated in advance. Students are expected to behave in accordance with the expectations of the instructor, teaching assistant and site supervisor of the visit. General expectations that will cover all site visits include:

- Signing and submitting the appropriate participant waiver agreement before leaving for the visit.
- Wearing suitable and certified PPE, based on the expectations for the specific visit.
- Discussions with peers can be part of a learning experience; however, when the instructor, teaching assistant, or host is speaking, students must pay attention and follow provided instructions.
- Maintain a safe distance from any machinery.
- No one will create a situation that could compromise or jeopardize the safety of themselves or anyone else in the lab or site. This includes running, horseplay, etc.

Students not abiding by these safety requirements will be given one warning. Second offences will result in the student being asked to leave the active site and receiving a grade of zero for that deliverable.

7. COMMUNICATIONS

It is the student's responsibility to:

- Maintain current contact information with the University, including address, phone numbers, and emergency contact information.
- Use the University provided e-mail address or maintain a valid forwarding e-mail address.
- Regularly check the official University communications channels. Official University communications are considered received if sent by postal mail, by fax, or by e-mail to the student's designated primary e-mail account via their "@mcmaster.ca" alias.
- Accept that forwarded e-mails may be lost and that e-mail is considered received if sent via the student's @mcmaster.ca alias.
- Check the McMaster/Avenue email and course websites on a regular basis during the term.

8. POLICIES

ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the *Academic Integrity Policy*, located at https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/.

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

AUTHENTICITY / PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

COURSES WITH AN ON-LINE ELEMENT

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn (A2L), LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the *Code of Student Rights & Responsibilities* (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's *Academic Accommodation of Students with Disabilities* policy.

REQUESTS FOR RELIEF FOR MISSED ACADEMIC TERM WORK

In the event of an absence for medical or other reasons, students should review and follow the *Policy on Requests for Relief for Missed Academic Term Work*.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students should submit their request to their Faculty Office ***normally within 10 working days*** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.