OCIENE GRADUATE STUDENT HANDBOOK

CARLETON UNIVERSITY

Updated July 2024

Dear Environmental Engineering Graduate Students,

Welcome to the Department of Civil and Environmental Engineering and the Ottawa-Carleton Institute for Environmental Engineering. This handbook is meant as an additional resource to help guide you through your program in Environmental Engineering at Carleton. It is not meant to be a comprehensive list of all the rules, regulations and guidelines you need to know but a resource that provides you with the links to the rules, regulations and guidelines related to your program and the resources available to support you during your journey.

It is important that you understand your program requirements and rules, alongside the regulations and guidelines of the university and your department. Please do not hesitate to reach out to your supervisor, the Graduate Administrator or the Associate Chair, Graduate Studies for Environmental Engineering. Please review your academic audit regularly during your program to ensure you are on track to meeting your program requirements. All communication must be through your Carleton email address and be sure to check this email address regularly.

This handbook is a living document that we plan to update regularly. We welcome your feedback on what is useful and what is missing or would be helpful to include in the handbook. It is important to note the “Additional Resources” section of the handbook, as Carleton has an excellent range of resources to support you in your program. Mental health and wellness are priorities at Carleton so do not hesitate to reach out when needed.

In closing, I hope you find this handbook useful and welcome your feedback. I wish you every success in the coming academic year and your program in general. Your success is our success. So, let’s work together to learn, advance science and engineering, develop interpersonal skills, and make friends and colleagues that will support and sustain us during our academic journey and our careers that follow. The world needs talented environmental engineers to tackle climate change and protect our environment; join the Department, the Institute and our many alumni in being part of the solution.

Kind regards,

Paul Simms, PhD, PEng

Associate Director, OCIENE and Associate Chair, Graduate Studies for Environmental Engineering

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MEET THE TEAM

OTTAWA-CARLETON INSTITUTE FOR ENVIRONMENTAL ENGINEERING (OCIENE)

Director: Prof. Robert Delatolla, Civil Engineering, University of Ottawa

Associate Director: Prof. Paul Simms, Civil and Environmental Engineering, Carleton University

Associate Director: Prof. Boguslaw Kruczek, Chemical and Biological Engineering, University of Ottawa

DEPARTMENT

Main office: 3432 Mackenzie Building (3432 ME)

Departmental Administrator:

Payal Chadha, CEEGradInfo@cunet.carleton.ca, (3452 ME)

Graduate Administrator:

Reynosa Sarmiento

CEEGradInfo@cunet.carleton.ca (3452 ME)

Associate Chair, Graduate, for Environmental Engineering:

Prof. Paul Simms, PaulSimms@cunet.carleton.ca

Department website for graduate students:

http://carleton.ca/cee/current-students/current-graduate-students/

LABORATORY STAFF

Laboratory Supervisor: Muhammad Salam, muhammad.salam@carleton.ca (2082 MC)

Civil Engineering Technologists:

Pierre Trudel, pierre.trudel@carleton.ca (2082 MC)

Jason Arnott, jason.arnott@carleton.ca (2082 MC)

Environmental Engineering Technologist:

Sonja Koster, sonjakoster@cunet.carleton.ca (2432 ME)

Laboratory Technician for Architectural Conservation and Sustainability Engineering:

TBD 2082 MC

Network and Systems Specialist:

Chris Kirupairajah, chriskirupairajah@cunet.carleton.ca (2032 MC)

UNIVERSITY REQUIREMENTS

As an Environmental Engineering graduate student, you need to be aware of the rules and regulations of the University. This handbook will highlight certain rules and guidelines but does not re-iterate ALL the rules and guidelines of the University. Students are responsible to know the rules and guidelines; the calendar is the ultimate authority. The general regulations of the Faculty of Graduate and Postdoctoral Affairs (FGPA) can be found here: https://calendar.carleton.ca/grad/gradregulations/

WELLNESS AND MENTAL HEALTH

Carleton University cares about the mental health of the Carleton Community and provides significant resources and support. See the links below and please reach out and seek support from these resources when needed.

- https://carleton.ca/cee/2021/11/student-support-and-wellness/
- https://carleton.ca/wellness/

ACADEMIC INTEGRITY

One key to success is to avoid **academic integrity** violations. These violations take a few different forms: plagiarism (including material from other sources without proper citations, citing the work but failing to use quotation marks where needed, or reusing work which you have submitted from another course) or cheating on tests or assignments by collaborating when this is not allowed. At the graduate level, the penalties for these offenses can be very serious (including an F in the course or even expulsion from the program) so it is absolutely crucial to avoid this potential problem. Even better, citing the proper sources and including quotation marks where necessary can work in your favour by highlighting the fact that you have completed a strong literature review in support of your research. You are **strongly encouraged** to review the university's academic integrity policy, which can be found here:

https://carleton.ca/secretariat/wp-content/uploads/Academic-Integrity-Policy-2021.pdf

Commented [PVG1]: Add section on AI in CEE

Department of Civil and Environmental Engineering AI Policy

This policy describes the conditions for graduate students to use generative artificial intelligence or large language models (collectively described as AI tools) for generating content (e.g., text and figures) in their graduate research work. The fundamental values underlying this policy are transparency and academic integrity.

1. **By default, the use of AI tools is not permitted unless explicitly permitted by the thesis supervisor(s) or project supervisor(s)**.
2. Students who plan to use generative AI tools must get approval in writing from their supervisor **before** the tools are used. This approval should state explicitly how the AI tools will be permitted to be used (e.g., proof-reading, summarization, outlining, research, drafting, image generation, coding, etc.).
3. The use of AI tools without approval may be considered an academic offense.
4. If the use of AI tools is permitted as described above, the use of AI tools must be disclosed in the thesis document in the preface section (e.g., see integrated thesis policy). This disclosure must describe how AI tools were used and which sections of the thesis document it was used for.

5. In all cases, the graduate student is completely responsible for all submitted work and must be able to defend that work. The student is responsible for ensuring that all material is correct and not plagiarized. Refer to Carleton's Academic Integrity Policy for more information: https://carleton.ca/secretariat/wp-content/uploads/Academic-Integrity-Policy-2021.pdf

DEPARTMENTAL REQUIREMENTS

The departmental requirements and guidelines are provided in this handbook. Additional information can be found on the departmental website for graduate students:

https://carleton.ca/cee/current-graduate-students/

The department forms can be found here:

https://carleton.ca/cee/graduate-forms/

The department hosts a graduate student orientation session each fall term and the slides for that presentation can be found here:

https://carleton.ca/cee/graduate-students-orientation/

PROGRAM REQUIREMENTS

The calendar clearly states program requirements:

https://calendar.carleton.ca/grad/gradprograms/environmentalengineering/

The programs include:

- M.A.Sc. Environmental Engineering

- M.Eng. Environmental Engineering
- M.A.Sc. Environmental Engineering with Collaborative Specialization in Climate Change
- M.Eng. Environmental Engineering with Collaborative Specialization in Climate Change
- Ph.D. Environmental Engineering

In visiting the above links, note the breadth requirement for Master's students and the list of courses approved in each of the breadth areas. This section also states students are permitted to take non-institute courses with the approval of their supervisor (MASc and PhD) or advisor (MEng) and the Associate Chair, Graduate, for Environmental Engineering (department). Note you need to obtain approval **prior to taking the course**. The form to request approval for a course can be found at the department website: https://carleton.ca/cee/graduate-forms/

Note that the Ontario Council for Quality Assurance requires that two-thirds of the courses required for a graduate program must be graduate courses taken primarily by graduate students (see calendar section 5.3 Graduate-level Course Requirements). Graduate courses that are cross-listed with an undergraduate course, do not meet this requirement and a note reflecting this is provided in the course requirement section of each program.

GUIDANCE ON ROLE AND RESPONSIBILITIES OF SUPERVISORS AND STUDENTS

The university has a website outlining the general responsibilities and expectations for supervisors and students. The link is provided here:

https://gradstudents.carleton.ca/graduate-supervision-responsibilities-expectations-policy/

DOCTOR OF PHILOSOPHY (PHD) ENVIRONMENTAL ENGINEERING

A PhD in Environmental Engineering consists of coursework, PhD comprehensive, PhD thesis (and defence), and participation in the PhD Seminar Series. Your supervisor is your primary contact for the selection of courses, your PhD comprehensive (details follow), and your research leading to your PhD thesis and defence.

PHD COURSEWORK

Typically completed in the first year of your program but may extend into later terms. The course requirement is a minimum of three courses (1.5 credits) and you may be asked to take additional courses by your supervisor and/or Advisory Committee to support your research.

ADVISORY COMMITTEE

An Advisory Committee must be established before or at the time of the student's PhD proposal defence. The Advisory Committee must consist of at least four members including the supervisor, two members of the department (one could be a co-supervisor if applicable), and a member of OCIENE. If there is not an OCIENE member at uOttawa with the appropriate research expertise, this member can be replaced by another member of the department or other department at Carleton, or an industry or research partner outside Carleton. The supervisor, in consultation with the student, should propose the Advisory Committee membership and send an email with the Advisory Committee membership to the Associate Chair, Graduate, for approval.

PHD COMPREHENSIVE

In OCIENE, the PhD comprehensive examination consists of a PhD thesis proposal defence. The goal of the PhD thesis proposal defence is to assess whether the student should be capable of completing a PhD. The PhD Thesis Proposal Examination Committee should consist of the Advisory Committee and will be approved by the Associate Chair, Graduate. The thesis proposal defence should consist of three rounds of questions; first round, one-on-one examination of student's general background in environmental engineering related to the student's research area; second round, one-on-one examination of knowledge, background and understanding of the research proposed in the thesis proposal; third round, open

questions by the examiners. The examination will be chaired by a member of the department on the examination committee and not the thesis supervisor or co-supervisor.

The PhD thesis proposal is meant to demonstrate the student's background knowledge, ability to review and critically assess the literature to identify research gaps and/or needs, and to develop an appropriate research plan to address the identified gaps and/or needs. The PhD thesis proposal should consist of the following:

- description of the research project, the motivation for the project
- literature review identifying current gaps in literature
- a detailed research plan, methodology, experimental plan or modelling approach to address the research gaps
- clear statement of any work completed to date; student may include an appendix which could include experimental data, draft or submitted conference and/or journal papers (note an appendix may be included but is not required)
- clear statement of the expected contributions of the research
- 30-40 pages (1.5 line spacing) in length (maximum 50 pages)

Students must register in ENVE 6902 Ph.D. Comprehensive Examination only in the term that they plan to defend their proposal. The PhD thesis proposal should be submitted and defended within 6 FT or 9 PT terms since first registration. Students are encouraged to target 4-5 FT terms for the completion of their PhD thesis proposal. Six FT terms will be set as the milestone in the PhD Environmental Engineering student audit. If the milestone is not met, a one term extension of the milestone will be granted, and the student and supervisor must develop a plan in the Annual Progress Report clearly defining tasks and milestones to ensure the PhD thesis proposal is submitted within one term. If the proposal is not submitted by the end of the term, a second extension will be granted provided an updated plan is provided by the student and supervisor. A third extension will not be granted without strong justification and approval of the student, supervisor and Associate Chair – Graduate Studies for Environmental Engineering.

The outcomes of the PhD thesis proposal defence may include a satisfactory grade (SAT) with a recommendation to continue, an in-progress (IP) grade with a requirement to take an

additional course or courses or other remedial action, or an unsatisfactory (UNS) grade. A student who receives an IP grade will need to maintain registration in ENVE 6902 until a SAT grade is attained within a maximum of three terms. If a student is awarded UNS grade in their first attempt, they will be given four months to submit a revised thesis proposal which should be defended within 2 months of submission. If the student is not successful in receiving a SAT grade in the second attempt, the student will be withdrawn from the program.

STUDENT PROGRESS

After the proposal defence, an Annual Progress Report (completed by the student and the student's supervisor/co-supervisors) and a brief 2-5 page progress update generated by the student, will be circulated to the Advisory Committee. This will be completed annually and placed on file until the student completes the program requirements. The student is welcome to consult with the Advisory Committee and/or organize a meeting with the Advisory Committee (the latter in consultation with their supervisor).

PHD SEMINAR SERIES

Prior to submission of their thesis, PhD students are required to give a presentation about their research in the PhD Seminar; this is typically completed in the final year of their program. Students must register in ENVE 7800 Ph.D. Seminar only in the term that they choose to make their seminar presentation. Note that this Seminar is only held in the fall and winter terms so students should plan accordingly. Although only the students who are presenting during the term will register in the seminar course, all graduate students are expected to attend the seminars to see the presentations.

PHD THESIS AND DEFENCE

If students are not registering in courses, they will need to register in ENVE 6909 Ph.D. Thesis and are required to maintain continuous registration in the course ENVE 6909 Ph.D. Thesis in every term until they complete their degree. Please discuss this with your supervisor before you register in the Ph.D. thesis course.

A wealth of resources regarding thesis requirements can be found at:

https://gradstudents.carleton.ca/resources-page/thesis-requirements/

This includes thesis formatting guidelines, a thesis examination policy that outlines the membership of the examination committee, format of the defence, thesis submission timelines, etc. Students are **strongly encouraged** to read the thesis examination policy at https://gradstudents.carleton.ca/wp-content/uploads/Thesis-Examination-Policy-revised-Jan-2022-1.pdf

The thesis requirements website references an “Integrated Thesis”, also referred to as a paper-based thesis, and states the specific units/departments provide details related to the format requirements of an “Integrated Thesis”. The Integrated Thesis Policy can be found at: https://carleton.ca/senate/wp-content/uploads/6b_Integrated-Thesis-Policy-Revised-24-January-2012-3.pdf . The department does not have any additional requirements or guidance.

TYPICAL PHD ROADMAP

There really is no “typical” roadmap for a PhD student. A PhD is a challenging and rewarding experience. It requires dedication and passion as it can take 4-6 years (12-18 FT terms) to complete. Good communication between you and your supervisor is critical. Establishing milestones and reviewing progress regularly are essential. Different supervisors have different approaches to supervision; some are more hands-on, and others are more hands-off, and both have advantages and disadvantages. In either case, you need to take ownership and seek guidance when needed. As noted earlier, you should target to complete your Thesis Proposal in 4-5 FT terms and not let this milestone pass 6 FT terms. Discuss your course selections and timing with your supervisor. Some supervisors encourage their students to complete the coursework in the first 1-2 terms, others may suggest delaying a course or two and recommend you commit more time initiating your research as resources and support are available now. Experimental work often takes time to set-up and the earlier you can start to develop and trouble shoot your experimental methods, the better. Your goal should be to make continual progress and recognize that sometimes you may have to take a step back before making two steps forward. Most PhD students face a time when they feel that their research progress is slower than they would like; know that you are not alone. During these times, focus on your milestones and communicate with your supervisor. As you pass the midway point and approach the end of your research plan, be sure to have good

communication and establish clear expectations with your supervisor. Why can some PhD research projects take longer than others? A PhD has to advance science; when you defend your thesis, you will be expected to be the expert in that field and demonstrate your contributions to that field. It is part of the challenge and the reward.

MASTER OF APPLIED SCIENCE (MASC) ENVIRONMENTAL ENGINEERING

A MASc Environmental Engineering consists of coursework, a MASc thesis (and defence) and participation in the Master's Seminar. Your supervisor is your primary contact for the selection of courses and your research, leading to your MASc thesis and defence.

MASC COURSEWORK

Courses must be selected, in consultation with your supervisor, from the list of courses provided in the program requirements section of the calendar. Note the breadth requirement for Master's students. Students may also, subject to approval, select courses outside the institute but approval must be obtained before taking the course. The appropriate form can be found here: https://carleton.ca/cee/graduate-forms/

MASC THESIS

If students are not registering in courses, they will need to register in ENVE 5909 Master's Thesis and are required to maintain continuous registration in the course ENVE 5909 Master's Thesis in every term until they complete their degree. Please discuss this with your supervisor before you register in the Master's Thesis course.

A wealth of resources regarding thesis requirements can be found at:

https://gradstudents.carleton.ca/resources-page/thesis-requirements/

This includes thesis formatting guidelines, a thesis examination policy that outlines the membership of the examination committee, format of the defence, thesis submission

timelines, etc. Students are **strongly encouraged** to read the thesis examination policy at https://gradstudents.carleton.ca/wp-content/uploads/Thesis-Examination-Policy-revised-Jan-2022-1.pdf

The thesis requirements website references an “Integrated Thesis”, also referred to as a paper-based thesis, and states the specific units/departments provide details related to the format requirements of an “Integrated Thesis”. The Integrated Thesis Policy can me found at https://carleton.ca/senate/wp-content/uploads/6b_Integrated-Thesis-Policy-Revised-24-January-2012-3.pdf . The department does not have any additional requirements or guidance.

MASC SEMINAR SERIES

Prior to submission of their thesis, MASc students are required to give a presentation about their research in the Master’s Seminar; this is typically completed in the final year of their program. Students must register in ENVE 5800 Master’s Seminar only in the term that they choose to make their seminar presentation. Note that this Seminar is only held in the fall and winter terms so students should plan accordingly. Although only the students who are presenting during the term will register in the seminar course, all graduate students are expected to attend the seminars to see the presentations.

TYPICAL MASC ROADMAP

The pathway to meet these program requirements can vary. A student with a defined research project at the beginning of their MASc, may be asked by their supervisor to start their research activities immediately (e.g., literature review, methodology and experimental plan, etc.) and take courses over 3-6 terms. A student without a defined project at the beginning of their MASc, may be asked by their supervisor to complete all their coursework in the first two terms, review the literature, and to start the project full-time in their third term. Therefore, it is important to consult with your supervisor.

An MEng in Environmental Engineering has two options; a project option or a coursework option. Program requirements for each option are provided in the calendar. An MEng Project student is assigned a supervisor and an MEng Coursework student is assigned an advisor.

MASTER'S COURSEWORK

Courses should be selected, in consultation with your supervisor/advisor, from the list of courses provided in the program requirements section of the calendar. Note the breadth requirement for Master's students.

MENG PROJECT

The MEng Project is assigned a credit weight of 1.0 credits. As a guideline, a project generally requires more effort than two graduate courses (1.0 credits) and less effort than an MASc thesis (2.5 credits). It typically takes the equivalent of 1-2 full-time terms without coursework to complete a project under the supervision of your supervisor. The deliverable is a final report that will be graded by your supervisor and another professor in the department. Note, you need to allow at least two weeks for your supervisor and the second reviewer to grade the report.

TYPICAL MENG ROADMAP

A Coursework MEng normally takes 4 FT terms to complete. A Project MEng should take 4-6 FT terms to complete. Note, course offerings in the summer term are limited. These timelines vary depending on whether you are fortunate enough to have a TA, availability of courses you wish to take, your level of effort and whether you have a part-time job, etc. Project MEng students also have to participate in ENVE 5800 Master's Seminar and give a presentation in the final 1-2 terms of their program. Note, the Seminar is only held in the fall and winter terms so students should plan accordingly.

Master's students in Environmental Engineering can specialize and enrol in the MASc or MEng with Collaborative Specialization in Climate Change (CSCC). The program requirements are clearly stated in the calendar (link provided earlier). To apply for the CSCC option, submit a one-paragraph to one-page summary of why you think it is important to take the CSCC option to the Graduate Administrator. The department will forward your application to the CSCC admissions committee and once approved, the department will change your program to the MASc or MEng with Collaborative Specialization in Climate Change and the program requirements will be reflected in your audit.

APPLYING TO GRADUATE

When you are nearing the completion of all your degree requirements, and you are ready to graduate, you need to apply to graduate. This is done during the term prior to the graduation ceremony. All requirements for applying to graduate, including relevant dates and deadlines, may be found at: https://carleton.ca/registrar/progress/graduation/

TRANSFERRING BETWEEN PROGRAMS

If you would like to change programs, please discuss it with your supervisor or advisor and contact the Graduate Administrator (CEEGradInfo@cunet.carleton.ca). The program change form may be found with the other graduate forms at https://carleton.ca/cee/graduate-forms/. It is possible to change from MASc to MEng, from MEng Coursework to MEng Project (which would require you to find a project supervisor), or from MEng to MASc (which would require you to find a thesis supervisor). See the preceding sections for the program requirements.

It is also possible to 'fast-track' directly from an MASc into a PhD (without needing to complete the MASc degree). Requirements for this may be found on the PhD admission page:
https://calendar.carleton.ca/grad/gradprograms/environmentalengineering/#admissionphdtext

LABORATORY SAFETY, ACCOUNTS, COMPUTING RESOURCES, ETC.

The Department of Civil and Environmental Engineering at Carleton hosts multiple state-of-the-art research laboratories including:

- Environmental Eng Graduate Research Laboratory (ME 2431, 2432, 3441 and 3499)
- Carleton Water Research and Microbiology Laboratory (ME 2444)
- Energy and Resource Recovery Laboratory (ME 2432)
- Mining Materials Laboratory (MC1062)
- Surface and Subsurface Systems Laboratory (CB 7110/7109)
- Green Roof Research Laboratory (CB 6212)

Health and Safety are critical to your and your colleagues well being. Before gaining access to any of the laboratories in the department, we will need to complete the required safety training. Details can be found under Laboratory Forms at this link:

https://carleton.ca/cee/student-forms/

Also provided at this link is the Laboratory Project Information Form that you need to complete with your supervisor before initiating any research projects of activities in the lab.

COMPUTING ACCOUNTS AND RESOURCES

Your MyCarletonOne (MC1) accounts are provisioned automatically when you are registered at the beginning of a term. For any account issues, please contact the ITS Help Desk (https://carleton.ca/its/contact/). The department runs virtual workstations that has our

departmental specialized software installed on them. You can access the virtual workstation remotely from any browser on any computer. For instructions, see https://carleton.ca/cudesktop/

Carleton also has site-licenses for some common software that you may need (https://carleton.ca/its/all-services/computers/site-licensed-software/). For research specific software, discuss with your supervisor.

At the department's Graduate Student Orientation, information is provided related to accounts, computing resources, etc. A link to this presentation is here:

https://carleton.ca/cee/graduate-students-orientation/

TRAVEL

Any research-related travel, including field-work must be approved by your supervisor ahead of time. Relevant, agreed-upon reimbursement for expenses is handled through the SAP Concur Travel System. For access and instructions, see: https://carleton.ca/facts/travel/

Some limited additional funding for travel may be available from the university/department through the travel bursary (speak to your supervisor) or the Graduate Student Association (GSA) (https://gsacarleton.ca/travel-grant/).

ADDITIONAL RESOURCES

IMPORTANT DATES & DEADLINES

- https://calendar.carleton.ca/academicyear/

UNIVERSITY POLICIES

- Code of Conduct, Anti-Racism and Discrimination https://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/academic-integrity-and-offenses-of-conduct/
- Academic Integrity https://carleton.ca/secretariat/wp-content/uploads/Academic-Integrity-Policy-2021.pdf
- Academic Support and Accommodations https://carleton.ca/pmc/legal-policies-and-responsibilities/accommodation-policy/
- Registration https://carleton.ca/registrar/registration/
- Applying for Graduation https://carleton.ca/registrar/progress/graduation/

FUNDING

- https://graduate.carleton.ca/financial-assistance/
- Admissions Funding https://graduate.carleton.ca/financial-assistance/admissions-funding/
- Internal Funding https://gradstudents.carleton.ca/awards-and-funding/internal-awards/
- External Funding https://gradstudents.carleton.ca/awards-and-funding/external-awards/
- OSAP https://graduate.carleton.ca/government-assistance/
- Travel https://gradstudents.carleton.ca/awards-and-funding/special-awards/

JOB OPPORTUNITY RESOURCES

- Teaching Assistantship https://gradstudents.carleton.ca/teaching-assistants/
- Outside Priority TAs https://gradstudents.carleton.ca/teaching-assistants/#Out
- Contract Instructor Positions https://carleton.ca/deputyprovost/jobs/contract-instructors/faq/
- Enrichment Mini-Courses Program https://carleton.ca/emcp/

STUDENT SUPPORT SERVICES/ RESOURCES

- Athletics https://athletics.carleton.ca/
- Awards Office https://carleton.ca/awards/
- Career Services https://carleton.ca/career/
- Faculty of Graduate and Postdoctoral Affairs (FGPA) https://gradstudents.carleton.ca/
- Health and Counselling https://carleton.ca/health/

- International Student Services Office (ISSO) https://carleton.ca/isso/
- Information Technology Services (ITS) https://carleton.ca/its/
- Paul Menton Centre (PMC) https://carleton.ca/pmc/
- Registrar's Office https://carleton.ca/registrar/
- Safety https://carleton.ca/safety/
- Scheduling and Examination Services https://carleton.ca/ses/
- Student Account Receivable https://carleton.ca/studentaccounts/

ASSOCIATIONS

- Associations (CSES, CU-WISE, Engineers without Borders) https://carleton.ca/engineering-design/current-students/clubs-and-societies/