STUDENT HANDBOOK

Department of Civil Engineering
Undergraduate Program

www.torontomu.ca/civil

Fall 2026 / Winter 2027

Toronto Metropolitan University

Last Updated: August 28, 2026

TORONTO METROPOLITAN UNIVERSITY

DEPARTMENT OF CIVIL ENGINEERING

UNDERGRADUATE STUDENT HANDBOOK
FALL 2026 / WINTER 2027

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It is the responsibility of each full-time undergraduate student to access the updated online Toronto Metropolitan University Full-time Undergraduate Calendar each year and to follow his/her curriculum as stated in the relevant Calendar. The online Undergraduate Toronto Metropolitan University Calendar is at this link www.torontomu.ca/calendar

As Toronto Metropolitan University Calendars are legal documents, they take precedence over this Student Handbook. In the event of any inconsistency, the Fall 2026 / Winter 2027 Toronto Metropolitan University Undergraduate Calendar and the Fall 2026 / Winter 2027 Yeates School of Graduate Studies Calendar will prevail.

If you have any questions or need assistance, please contact:

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MESSAGE FROM THE CHAIR



Dear Students,

Congratulations and welcome to all of you, whether you are just embarking on or continuing your journey in Civil Engineering! You are entering a noble profession, one that plays a vital role in shaping societies. Civil engineers are at the forefront of addressing critical global challenges like climate change, population growth, and urbanization—and now, you are part of this mission.

Our program offers you a comprehensive foundation across key disciplines, including structural, environmental, transportation engineering, and geomatics. This handbook is your guide to understanding the breadth of your studies and staying informed about essential aspects of your academic journey, such as curriculum details and important deadlines.

In addition to your core studies, I encourage you to explore the various academic opportunities available to enhance your education. You have the option to pursue **Minors, Optional Specializations**, and **Certificates** in areas that align with your interests and career goals. These opportunities allow you to broaden your expertise and further tailor your education to the demands of an evolving profession. Please refer to the relevant sections in this handbook to learn more about these pathways.

Take the time to carefully study the curriculum and make full use of the wealth of information provided here. While the department is always ready to support you in achieving academic success, it is important that you take responsibility for your learning and personal growth.

During your time in the program, I urge you to make the most of the opportunities available to you. You are part of a vibrant network that includes your classmates, faculty, staff, and graduate assistants. Engage with your peers, ask questions, explore the field, and interact with professors and research students. Additionally, student associations, competitions, and events provide excellent platforms for you to develop skills in governance, teamwork, and problem-solving.

Consider applying for the **Co-op & Internship program** at the beginning of your third year. This program offers hands-on engineering experience, giving you a strong foundation for your final year, while also helping you gain valuable professional experience toward your Professional Engineer licensing—all while earning an income.

I hope this handbook proves to be a valuable resource throughout your studies. Should you need any guidance, don't hesitate to reach out. Stay connected by visiting our program web pages at TMU Civil Engineering www.torontomu.ca/civil and following us on LinkedIn at TMU Civil Engineering LinkedIn.

Wishing you every success in your studies and looking forward to your achievements!

Warm regards,

Dr. Darko Joksimovic, P.Eng.
Chair, Department of Civil Engineering Department

UNDERGRADUATE PROGRAM

PROGRAM OVERVIEW/CURRICULUM INFORMATION

The curriculum provides for a general four-year Civil Engineering program. Graduates from the Civil Engineering program would expect to be employed by engineering technology and consulting companies, the construction industry, the mining industry, and municipality and government agencies.

After completing two years in the Civil Engineering program students may continue in the regular Civil Engineering program or choose the Structural Engineering option. There will be a 60% cap for enrolment in either the Civil Engineering program or the Structural Engineering option. Enrolment in the Civil Engineering program or the Structural Engineering option after the second year will be made on a competitive basis, subject to program capacity. (Please visit torontomu.ca/civil/undergraduate for more details.) In addition, students continuing in the Civil Engineering program will have the option of pursuing either the Environmental or Transportation Engineering Streams in the 4th year of the program. An enrolment cap for the Environmental or Transportation Streams will be similar to that mentioned above.

The Civil Engineering program curriculum focuses mainly on four areas: environmental, geomatics, structural/materials and transportation engineering. The subjects include environmental sustainable development, impact of civil engineering, water and wastewater management, soil mechanics, geomatics measurement, remote sensing and digital mapping, satellite navigation, structural analysis and design, concrete and highway materials, highway design, transportation planning, road safety, traffic and transit operation, pavement design and project management.

The curriculum of the Structural Engineering option provides further focus on structural analysis, computer-aided structural analysis, structural building systems, structural design of concrete, steel, timber and masonry, bridge design and construction, and renovation/repair of existing structures.

A student graduating from the Civil Engineering program will earn a Bachelor of Engineering (BEng) degree in Civil Engineering. A student graduating from the Structural Engineering option will earn a BEng in Civil Engineering with a Structural Engineering option.

A student graduating with a BEng in Civil Engineering may apply for registration by the Professional Engineers Ontario (PEO) as a Professional Engineer (PEng).

WRITING SKILLS RESOURCE PATH

All new engineering students are automatically enrolled in CEN 199: Writing Skills.

CEN 199 is graded on a Pass/Fail basis and is used to track the results of the Writing Skills Test (WST).

All students admitted into engineering are required to write the mandatory Writing Skills Test (WST) during Orientation Week. Students who pass the WST (by achieving a grade of ‘B' or higher) will receive a PASS in CEN 199 and therefore may enroll in the lower level Liberal Studies course of their choice (subject to availability).

Students who **do not pass** the WST, or achieved a ‘C' level remedial pass on the RTEP, will receive an INP (In Progress Grade) in CEN 199 and will be required to enroll in one of LNG 111, LNG 112, LNG 113, or LNG 121 as their first-year lower level Liberal Studies course. These courses, which count towards lower level Liberal Studies requirements, are writing-intensive humanities and social science courses

designed to give students the opportunity to strengthen their foundations in communication. These students will then have three additional opportunities to write and pass the WST:

- In May, following Semester 2.
- During Orientation Week prior to Semester 3.
- In May, following Semester 4.

A PASS in CEN 199: Writing Skills is required to enroll in all third-year engineering courses. Students with a grade of INP in CEN 199 will not be allowed to enroll in any third-year engineering course.

Detailed information about the Writing Skills Test and CEN199 requirement is available from the First-Year Engineering Office. firstyeareng@torontomu.ca Room ENG-377 Ph: (416) 979-5000 Ext. 554261

OPTIONAL CO-OPERATIVE INTERNSHIP PROGRAM (CIP)

For students admitted to Civil Engineering Program before Fall 2020

Third year students with CLEAR Academic Standing may opt to enrol in the Optional Co-operative Internship Program. If they are selected by one of the partner corporations, they spend a period of 8-16 months, from May to September of the following year, as engineering interns at the corresponding corporations. After the completion of the Co-operative Internship, students return to the academic program to complete their final year of studies. Enrolment in the Co-operative Internship extends the program length to five years.

Co-operative Program

For students admitted to the Civil Engineering Program in Fall 2020 and after

After completing the first three years of the regular curriculum, a student in the Civil Engineering Program with CLEAR academic standing has options of continuing with the regular program or enrolling in the Civil Engineering Co-operative program after obtaining a 12 to 16-month Co-op job offer. After completing their co-operative job placement, a student in the Civil Engineering Co-operative program will return to the program to complete their degree requirements. The length of the Civil Engineering Co-operative Program is five years.

Optional Internship Program

For students admitted to the Civil Engineering Program in Fall 2020 and after

After completing the first three years of the regular curriculum, students in the Civil Engineering Program with CLEAR Academic Standing may be eligible to enrol in the Optional Internship Program. If they are selected by one of the partner corporations, they spend a period of 8 months as engineering interns at the corresponding corporations. After the completion of the Internship, students return to the academic program to complete their final year of studies. Enrolment in the Internship Program extends the program length to five years.

OPTIONAL SPECIALIZATION IN MANAGEMENT SCIENCES (OS MS)

Students can enrich their studies and hone their management skills with the Optional Specialization in Management Sciences. Courses within the optional specialization cover four major areas in management

sciences: Strategic Engineering Management, Operations Management/Operations Research, Finance, and Organizational Behaviour. For eligibility, registration, and course information see Optional Specialization in Management Sciences (OS MS).

ENGINEERING TRANSFER CREDITS

Applicants approved into an Engineering program cannot expect to receive any transfer credits in Engineering discipline or Engineering related discipline courses if their applicable post-secondary education was not completed at a program accredited by The Canadian Engineering Accreditation Board (CEAB). Refer to www.ccpe.ca/e/index.cfm for a listing of CEAB accredited institutions.

Core and professional engineering course transfer credits will ONLY be granted at the time of admission. An Offer of Admission will notify the applicant of transfer credit decision(s) subject to acceptance of their Offer.

Liberal Studies discipline courses taken at CEAB accredited or non-accredited schools will be considered for either lower- or upper-level liberal studies transfer credit. College courses, in general, are not eligible for transfer credit except in the case of lower-level liberal studies courses.

LIBERAL STUDIES AND MINORS

Liberal Studies

Students must complete two lower level liberal studies courses and two upper level liberal studies courses to graduate. Students must not choose courses that are restricted for their program or major.

Please refer to the liberal studies chapter of the F2024/W2025 Toronto Metropolitan Undergraduate Calendar for more information on liberal studies policy.

Further information about liberal studies courses can also be found at the Faculty of Arts Liberal Studies website www.torontomu.ca /liberal-studies/

Minors

Students may pursue any Minor offered by Toronto Metropolitan University with exceptions. Please refer to the Minors Policy section of the Calendar for further information on individual Minor requirements and exclusions.

The G. Raymond Chang School of Continuing Education Certificates

Undergraduate students wishing to pursue a continuing education certificate program should be aware of possible exclusions. For complete details, please refer to the Curriculum Advising website at www.torontomu.ca/curriculumadvising.

Accelerated Master of Applied Science (MASc) Pathway

The Accelerated Master of Applied Science (MASc) Pathway is open to undergraduate engineering students who have demonstrated academic excellence and/or research potential by the end of the third year of their undergraduate program. Students can enrol in a maximum of two graduate level courses in addition to their regular undergraduate course requirements in the final year of their undergraduate program and commence their Master's research such that the MASc program can be completed in approximately one year. The Accelerated MASc Pathway does not change the degree requirements for

the existing BEng or MASc programs. For more information about and application to this pathway, please contact the Associate Dean, Graduate Studies, Faculty of Engineering and Architectural Science.

REQUIRED CRITERIA FOR STUDENTS ENTERING THIRD YEAR IN FALL 2026 / WINTER 2027 TO CONTINUE IN THE CIVIL ENGINEERING PROGRAM OR JOIN THE STRUCTURAL ENGINEERING OPTION:

Selection of students to continue in the Civil Engineering Program or enter the Structural Engineering Option after the second year of the Program are made on a competitive basis subject to program capacity. Enrollment in either the third year Civil Engineering Program or the third year Structural Engineering Option cannot exceed 60% of total students entering third year in Fall 2026.

1. In order to enroll in their first choice of either the third year Structural Engineering Option or Civil Engineering Program, students should complete all first and second-year courses by May 31, 2027, with a Clear academic standing and minimum CGPA of 2.50 in addition to also meeting the following criteria to continue in either the Civil Engineering Program or join the Structural Engineering Option:

i) For the Civil Engineering Program Former Curriculum (*Students Admitted Fall 2019 and earlier)*: achieve a minimum grade of C- in the first attempt in each of the following courses: CVL 323, CVL 316, and CVL 400.

For the Civil Engineering Program Revised Curriculum *(Students Admitted Fall 2020 and after)*: achieve a minimum grade of C- in first attempt in each of the following courses: CVL 323, CVL 316, and CVL502.

ii) For the Structural Engineering Option (former and revised curriculums): achieve a minimum grade of C- in first attempt in each of the following courses: CVL 320, CVL 420, and CVL 434.

Note: A required CGPA higher than 2.50 may be applied to maintain the sixty per cent enrolment cap in either the Civil Engineering Program or the Structural Engineering Option.

If a student is missing one or more courses from the second year, placement in the student's preferred option will be subject to space availability based on the 60% criterion.

2. Students who do not meet the above criteria will be ranked according to their cumulative performance in their first attempt in the relevant courses listed above for the Civil Engineering Program or the Structural Engineering Option, for admission consideration to the Option of their first choice. This is also subject to the 60% cap for enrolment in either the Civil Engineering program or the Structural Engineering option.

3. Ranking and selection of students' academic eligibilities for continuing in the Civil Engineering Program or joining the Structural Engineering Option will be finalized on June 2, 2027. Students who do not meet the above listed required criteria on or before June 1, 2027, will not be considered for their first choice of either continuing in the Civil Engineering Program or joining the Structural Engineering option.

4. The above criteria are for students entering third year in Fall 2026/Winter 2027 and are subject to change in future academic years.

REQUIRED CRITERIA FOR CIVIL ENGINEERING PROGRAM STUDENTS ENTERING FOURTH YEAR CIVIL ENGINEERING IN FALL 2026 / WINTER 2027:

After completing the third year of the Civil Engineering Program, students will have the option of pursuing either the Environmental or Transportation Engineering Stream for their fourth year of the program. Enrollment in either the Environmental or Transportation Engineering Stream cannot exceed 60% of total students entering fourth year in Fall 2026.

1. Students who complete the third year of the Civil Engineering program at the end of the academic year Fall 2026/Winter 2027 with a clear academic standing and a minimum CGPA of 2.67 will be considered for admission to their preferred stream for their fourth year of the program starting in Fall 2026. In addition, students should also have completed all of the third year courses by the end of Winter 2027 semester. If a student is missing one or more courses from the third year, placement in the student's preferred stream will be subject to space availability based on the 60% criterion. However, successful completion of the Stream prerequisite courses is required for admission to either Stream.

Note: A required CGPA higher than 2.67 may be applied to maintain the 60% enrollment cap in either the Environmental or Transportation Engineering Stream.

2. In the Seventh Semester (Fall 2026), fourth year students will be admitted to either the Environmental or the Transportation Stream based on the academic criteria and maximum enrollment capacity described above. In the eighth Semester, students must continue in the same Stream. Students will complete only one Stream.

3. Ranking and selection of students' eligibilities for the fourth year Civil Engineering Program Streams will be finalized on June 1, 2027. Students who do not meet the above listed required criteria on or before June 1, 2027, will not be considered for their first choice of Stream.

4. The above criteria are for students entering fourth year in Fall 2026/Winter 2027 and are subject to change in future academic years.

FORMER CURRICULUM
FOR STUDENTS ADMITTED FALL 2019 AND EARLIER

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

FIRST SEMESTER

Common to Aerospace, Biomedical, Chemical, Civil, Computer, Electrical, Industrial and Mechanical Engineering Programs

Common to the Civil Engineering Program and the Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab / Tutorial
COMMON ENGINEERING: Introduction to Engineering	CEN 100	1	2	1 Tut.
COMMON ENGINEERING: Writing Skills	CEN 199*	1	0	1 Lab
CHEMISTRY: General Chemistry	CHY 102	1	3	1 Lab
MATHEMATICS: Calculus I	MTH 140	1	4	2 Lab
MATHEMATICS: Linear Algebra	MTH 141	1	4	1 Lab
PHYSICS: Physics: Mechanics	PCS 211	1	3	1 Tut 1 Lab
LIBERAL STUDIES: One course required from Table A (Lower Level Liberal Studies)		1	3	

*Graded on a pass/fail basis.

SECOND SEMESTER

Common to the Civil Engineering Program and the Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab / Tutorial
COMPUTER SCIENCE: Digital Computation and Programming	CPS 125	1	3	2 Lab
CIVIL: Graphics	CVL 207	1	2	2 Lab
ECONOMICS: Principles of Engineering Economics	ECN 801	1	3	0
MATHEMATICS: Calculus II	MTH 240	1	4	1 Lab
MECHANICAL: Materials Science Fundamentals	MTL 200	1	3	1* Lab
PHYSICS: Physics: Waves and Fields	PCS 125	1	3	1 Lab 1 Tut

*Two hour lab every other week

THIRD SEMESTER

Last Offered Fall 2020 for Students Admitted Fall 2019 and Earlier

Common to the Civil Engineering Program and the Structural Engineering Option

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab / Tutorial
CIVIL: Environmental Science and Impact Assessment	CVL 300	1	3	1 Lab
CIVIL: Strength of Materials I	CVL 320	1	4	2 Lab
CIVIL: Fundamentals of Surveying	CVL 323	1	3	2 Lab
CIVIL: Probability and Statistics for Engineers	CVL405	1	3	2 Tut
MATHEMATICS: Differential Equations and Vector Calculus	MTH 425	1	4	2 Lab

FOURTH SEMESTER

Last Offered Winter 2021 for Students Admitted Fall 2019 and Earlier

Common to the Civil Engineering Program and the Structural Engineering Option

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab / Tutorial
COMMUNICATION: Communication in the Engineering Professions	CMN 432	1	2	2 Lab
CIVIL: Transportation Engineering	CVL 316	1	3	1 Tut
CIVIL: Hydrology and Water Resources	CVL 400	1	3	1 Lab 1 Tut
CIVIL: Strength of Materials II	CVL 420	1	3	2 Lab
CIVIL: Geology for Engineers	CVL 423	1	3	1 Lab
CIVIL: Geotechnical Properties of Soils	CVL 434	1	3	2 Lab

FIFTH SEMESTER

Last Offered Fall 2021 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Civil Engineering

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/ Tutorial
CIVIL: Geomatics Measurements Techniques	CVL 352	1	3	2 Lab
CIVIL: Introduction to Structural Design	CVL 500	1	3	2 Tut
CIVIL: Fluid Mechanics and Hydraulics	CVL 501	1	3	1 Tut 1 Lab
CIVIL: Concrete Materials	CVL 533	1	3	2 Lab
MATHEMATICS: Numerical Analysis	MTH 510	1	3	1 Lab
LIBERAL STUDIES: One course required from Table A (Lower Level Liberal Studies)		1	3	

SIXTH SEMESTER

Last Offered Winter 2022 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Civil Engineering

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/ Tutorial
CIVIL: Remote Sensing and Image Analysis	CVL 354	1	3	2 Lab
CIVIL: Wastewater Engineering	CVL 601	1	3	1 Lab/ 1 Tut.
CIVIL: Civil Engineering Systems	CVL 609	1	3	2 Lab
CIVIL: Highway Materials	CVL 633	1	3	2 Lab
CIVIL: Highway Design	CVL 735	1	3	2 Tut.
LIBERAL STUDIES: One course required from Table B (Upper Level Liberal Studies)		1	3	

NOTE: Students who have a CLEAR Academic Standing may opt to enroll in the Co-Operative Internship Program . For further information, please contact the Department of Civil Engineering.

SEVENTH SEMESTER

Last Offered Fall 2022 for Students Admitted Fall 2019 and Earlier

Civil Engineering

In the seventh semester, students select either the Environmental or the Transportation Stream.
In the eighth semester, student must continue in that same Stream.
Students will complete only one Stream.

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
REQUIRED:				
CIVIL: Geospatial Information Systems	CVL 736	1	3	2 Lab
REQUIRED: GROUP 1: Students must complete one Capstone Design Project from their selected stream:				
CIVIL: Environment Capstone Design Project	CVL 71A/B*	1	1	3 Tut.
CIVIL: Transportation Capstone Design Project	CVL 72A/B*	1	1	3 Tut.
PROFESSIONAL: Students complete **two courses from ONE** of the Streams listed below. In the 8th Semester, students must continue in that same Stream. Students will complete only one Stream.				
ENVIRONMENTAL STREAM				
CIVIL: Water Resources Engineering	CVL 903	1	3	1 Tut.
CIVIL: Water Supply Engineering	CVL 913	1	3	1 Tut/ 1 Lab
TRANSPORTATION STREAM				
CIVIL: Traffic Operations and Management	CVL 902	1	3	2 Lab
CIVIL: Transportation Planning	CVL 910	1	3	1 Tut.
LIBERAL STUDIES: One course required from the following:				
ENGLISH: Science Fiction	ENG 503	1	3	
GEOGRAPHY: Technology and the Contemporary Environment	GEO 702	1	3	
HISTORY: Scientific Technology and Modern Society	HST 701	1	3	
PHILOSOPHY: Religion, Science and Philosophy	PHL 709	1	3	
POLITICS: Power, Change and Technology	POL 507	1	3	

*CVL 71A/B and CVL 72A/B are two-term courses. Students must continue the same Capstone Design project they started in the Fall semester.

EIGHTH SEMESTER

Last Offered Winter 2023 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Civil Engineering

Course Title	Course Number	# Terms	Lecture	Lab/ Tut.
REQUIRED:				
COMMON ENGINEERING: Law and Ethics in Engineering Practice	CEN 800	1	3	
CIVIL: Satellite Positioning for Civil Engineers	CVL 650	1	3	2 Tut.
CIVIL: Project Management	CVL 742	1	3	1 Lab
REQUIRED: GROUP 1: Students continue with the Capstone Design Project started in the Fall term: **CIVIL:** Environment Capstone Design Project **CIVIL:** Transportation Capstone Design Project	 CVL 71A/B* CVL 72A/B*	 1 1	 1 1	 3 Tut. 3 Tut.
PROFESSIONAL: In the 8th Semester, students must continue in the same Stream as chosen in 7th semester. Students complete course listed in the Streams listed below. Students will complete only one Stream.				
ENVIRONMENTAL STREAM: **CIVIL:** Municipal Solid Waste Management	 **CVL 901**	 1	 3	 1 Tut.
TRANSPORTATION STREAM : **CIVIL:** Pavement Design and Management	 **CVL 900**	 1	 3	 2 Lab

*CVL 71A/B and CVL 72A/B are two-term courses. Students must continue the same Capstone Design project they started in the Fall semester.

STRUCTURAL ENGINEERING OPTION

FIFTH SEMESTER

Last Offered Fall 2021 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut
CIVIL: Structural Analysis	CVL 313	1	3	2 Tut.
CIVIL: Introduction to Structural Design	CVL 500	1	3	2 Tut.
CIVIL: Concrete Materials	CVL 533	1	3	2 Lab
CIVIL: Foundation Engineering	CVL 600	1	3	2 Tut.
MATHEMATICS: Numerical Analysis	MTH 510	1	3	1 Lab
LIBERAL STUDIES: One course required from Table A (Lower Level Liberal Studies)		1	3	

SIXTH SEMESTER

Last Offered Winter 2022 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
CIVIL: Computer Aided Structural Analysis	CVL 312	1	3	2 Lab
CIVIL: Structural Concrete Design I	CVL 410	1	3	2 Tut.
CIVIL: Structural Steel Design	CVL 411	1	3	2 Tut.
CIVIL: Civil Engineering Systems	CVL 609	1	3	2 Lab
CIVIL: Highway Materials	CVL 633	1	3	2 Lab
LIBERAL STUDIES: One course required from Table B (Upper Level Liberal Studies)		1	3	

NOTE: Students who have a CLEAR Academic Standing may opt to enroll in the Co-operative Internship Program. For further information, please contact the Department of Civil Engineering.

STRUCTURAL ENGINEERING OPTION

SEVENTH SEMESTER

Last Offered Fall 2022 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
REQUIRED:				
CIVIL: Structural Capstone Design Project	CVL 70A/B*	1	1	3 Tut.
CIVIL: Structural Concrete Design II	CVL 904	1	3	2 Tut.
CIVIL: Bridge Design and Construction	CVL 905	1	3	2 Tut.
CIVIL: Structural Building Systems	CVL 908	1	3	2 Tut.
LIBERAL STUDIES: One course required from the following:				
ENGLISH: Science Fiction	ENG 503	1	3	
GEOGRAPHY: Technology and the Contemporary Environment	GEO 702	1	3	
HISTORY: Scientific Technology and Modern Society	HST 701	1	3	
PHILOSOPHY: Religion, Science and Philosophy	PHL 709	1	3	
POLITICS: Power, Change and Technology	POL 507	1	3	

EIGHTH SEMESTER

Last Offered Winter 2023 for Students Admitted Fall 2019 and Earlier

(For Students Admitted Fall 2020 and after, please see Revised Curriculum starting on Page 19 of this Student Handbook)

Structural Engineering Option

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
REQUIRED:				
COMMON ENGINEERING: Law and Ethics in Engineering Practice	CEN 800	1	3	
CIVIL: Structural Capstone Design Project	CVL 70A/B*	1	1	3 Tut.
CIVIL: Project Management	CVL 742	1	3	1 Lab
CIVIL: Pavement Design and Management	CVL 900	1	3	2 Lab
CIVIL: Renovation/Repair of Existing Structures	CVL 906	1	3	2 Lab

*CVL 70A/B is a two-term course. Students must continue the same Capstone Design project they started in the Fall.

REVISED CURRICULUM: FALL 2026/ WINTER 2027
FOR STUDENTS ADMITTED FALL 2020 AND AFTER

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

FIRST SEMESTER

Revised Curriculum First Offered Fall 2020 for Students Admitted Fall 2020 and After

Common to Aerospace, Biomedical, Computer, Industrial, Mechanical, Mechatronics, Chemical and Civil Engineering Programs

Common to the Civil Engineering Program and the Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/ Tut.
COMMON ENGINEERING: Introduction to Engineering	CEN 100	1	2	1 Tut.
COMMON ENGINEERING: Writing Skills	CEN 199*	1	0	1 Lab
CHEMISTRY: General Chemistry	CHY 102	1	3	1 Lab
MATHEMATICS: Calculus I	MTH 140	1	4	2 Lab
MATHEMATICS: Linear Algebra	MTH 141	1	4	1 Lab
PHYSICS: Physics: Mechanics	PCS 211	1	3	1 Tut 1 Lab
LIBERAL STUDIES: One course required from Table A (Lower Level Liberal Studies)		1	3	

*Graded on a pass/fail basis.

SECOND SEMESTER

Revised Curriculum First Offered Winter 2021 for Students Admitted Fall 2020 and After

Common to the Civil Engineering Program and the Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/ Tut.
COMPUTER SCIENCE: Digital Computation and Programming	CPS 125	1	3	2 Lab
CIVIL: Graphics	CVL 207	1	2	2 Lab
ECONOMICS: Principles of Engineering Economics	ECN 801	1	3	0
MATHEMATICS: Calculus II	MTH 240	1	4	1 Lab
MECHANICAL: Materials Science Fundamentals	MTL 200	1	3	1* Lab
PHYSICS: Physics: Waves and Fields	PCS 125	1	3	1 Lab 1 Tut

*Two hour lab every other week

THIRD SEMESTER

Revised Curriculum First Offered Fall 2021 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Common to both the Civil Engineering Program and the Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
CIVIL: Strength of Materials I	CVL 320	1	4	2 Lab
CIVIL: Fundamentals of Surveying	CVL 323	1	3	2 Lab
CIVIL: Probability and Statistics for Engineers	CVL405	1	3	2 Tut
MECHANICAL: Fluid Mechanics	MEC 522	1	3	1 Lab
MATHEMATICS: Differential Equations and Vector Calculus	MTH 425	1	4	2 Lab

FOURTH SEMESTER

Revised Curriculum First Offered Winter 2022 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Common to both the Civil Engineering Program and the Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut
COMMUNICATION: Communication in the Engineering Professions	CMN 432	1	2	2 Lab
CIVIL: Transportation Engineering	CVL 316	1	3	1 Tut
CIVIL: Strength of Materials II	CVL 420	1	3	2 Lab
CIVIL: Geology for Engineers	CVL 423	1	3	1 Lab
CIVIL: Geotechnical Properties of Soils	CVL 434	1	3	2 Lab
CIVIL: Hydraulics Engineering	CVL 502	1	3	1 Tut 1 Lab

FIFTH SEMESTER

Revised Curriculum First Offered Fall 2022 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Civil Engineering

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
CIVIL: Geomatics Measurements Techniques	CVL 352	1	3	2 Lab
CIVIL: Hydrology and Water Resources	CVL 400	1	3	1 Tut 1 Lab
CIVIL: Introduction to Structural Design	CVL 500	1	3	2 Tut
CIVIL: Concrete Materials	CVL 533	1	3	2 Lab
MATHEMATICS: Numerical Analysis	MTH 510	1	3	1 Lab
LIBERAL STUDIES: One course required from Table A (Lower Level Liberal Studies)		1	3	

SIXTH SEMESTER

Revised Curriculum First Offered Winter 2023 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Civil Engineering

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
CIVIL: Remote Sensing and Image Analysis	CVL 354	1	3	2 Lab
CIVIL: Municipal Engineering	CVL 602	1	3	1 Tut. 1 Lab
CIVIL: Civil Engineering Systems	CVL 609	1	3	2 Lab
CIVIL: Highway Design	CVL 735	1	3	2 Tut.
CIVIL: Project Management	CVL 742	1	3	1 Lab
LIBERAL STUDIES: One course required from Table B (Upper Level Liberal Studies)		1	3	

NOTE: Students who have a CLEAR Academic Standing may opt to enroll in the Optional Internship Program or if eligible, enrolling in the Civil Engineering Co-Operative Program . For further information, please contact the Department of Civil Engineering.

SEVENTH SEMESTER

Revised Curriculum First Offered Fall 2023 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Civil Engineering

In the seventh semester, students select either the Environmental or the Transportation Stream.
In the eighth semester, student must continue in that same Stream.
Students will complete only one Stream.

Course Title	Course Number	# Terms	Lecture	Lab/Tut
REQUIRED:				
CIVIL: Satellite Positioning for Civil Engineers	CVL 650	1	3	2 Tut.
REQUIRED: GROUP 1: Students must complete one Capstone Design Project from their selected stream:				
CIVIL: Environment Capstone Design Project	CVL 71A/B*	1	1	3 Tut.
CIVIL: Transportation Capstone Design Project	CVL 72A/B*	1	1	3 Tut.
CORE ELECTIVE: Students complete **two courses from ONE** of the Streams listed below. In the 8th Semester, students must continue in the same Stream. Students will complete only one Stream.				
ENVIRONMENTAL STREAM				
CIVIL: Water Resources Engineering	CVL 903	1	3	1 Tut.
CIVIL: Water and Wastewater Treatment	CVL 920	1	3	1 Tut/ 1 Lab
TRANSPORTATION STREAM				
CIVIL: Traffic Operations and Management	CVL 902	1	3	2 Lab
CIVIL: Transportation Planning	CVL 910	1	3	1 Tut
LIBERAL STUDIES: One course required from the following:				
ENGLISH: Science Fiction	ENG 503	1	3	
GEOGRAPHY: Technology and the Contemporary Environment	GEO 702	1	3	
HISTORY: Scientific Technology and Modern Society	HST 701	1	3	
PHILOSOPHY: Religion, Science and Philosophy	PHL 709	1	3	
POLITICS: Power, Change and Technology	POL 507	1	3	

*CVL 71A/B and CVL 72A/B are two-term courses. In the winter semester, students must continue the same Capstone Design project they started in the Fall semester.

EIGHTH SEMESTER

Revised Curriculum First Offered Winter 2024 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Civil Engineering

Course Title	Course Number	# Terms	Lecture	Lab/Tut
REQUIRED:				
COMMON ENGINEERING: Law and Ethics in Engineering Practice	CEN 800	1	3	
CIVIL: Environmental Science and Impact Assessment	CVL 300	1	3	1 Tut.
CIVIL: Geospatial Information Systems	CVL 736	1	3	2 Lab
REQUIRED: GROUP 1: Students continue with the Capstone Design Project started in the Fall term: **CIVIL:** Environment Capstone Design Project **CIVIL:** Transportation Capstone Design Project	 CVL 71A/B* CVL 72A/B*	 1 1	 1 1	 3 Tut. 3 Tut.
CORE ELECTIVE: In the 8th Semester, students must continue in the same Stream started in 7th semester. Student's complete one course listed in the Streams listed below. Students will complete only one Stream.				
ENVIRONMENTAL STREAM: **CIVIL:** Municipal Solid Waste Management	 **CVL 901**	 1	 3	 1 Tut.
TRANSPORTATION STREAM : **CIVIL:** Pavement Materials and Design	 **CVL 914**	 1	 3	 2 Lab

*CVL 71A/B and CVL 72A/B are two-term courses. Students must continue the same Capstone Design project they started in the Fall semester.

STRUCTURAL ENGINEERING OPTION

FIFTH SEMESTER

Revised Curriculum First Offered Fall 2022 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut
CIVIL: Structural Analysis	CVL 313	1	3	2 Tut.
CIVIL: Introduction to Structural Design	CVL 500	1	3	2 Tut.
CIVIL: Concrete Materials	CVL 533	1	3	2 Lab
CIVIL: Foundation Engineering	CVL 600	1	3	2 Tut
MATHEMATICS: Numerical Analysis	MTH 510	1	3	1 Lab
LIBERAL STUDIES: One course required from Table A (Lower Level Liberal Studies)		1	3	

SIXTH SEMESTER

Revised Curriculum First Offered Winter 2023 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Structural Engineering Option

REQUIRED

Course Title	Course Number	# Terms	Lecture	Lab/Tut.
CIVIL: Computer Aided Structural Analysis	CVL 312	1	3	2 Lab
CIVIL: Structural Concrete Design I	CVL 410	1	3	2 Tut.
CIVIL: Structural Steel Design	CVL 411	1	3	2 Tut.
CIVIL: Civil Engineering Systems	CVL 609	1	3	2 Lab
CIVIL: Project Management	CVL 742	1	3	1 Lab
LIBERAL STUDIES: One course required from Table B (Upper Level Liberal Studies)		1	3	

NOTE: Students who have a CLEAR Academic Standing may opt to enroll in the Optional Internship Program or if eligible, enrolling in the Civil Engineering Co-Operative Program . For further information, please contact the Department of Civil Engineering.

SEVENTH SEMESTER

Revised Curriculum First Offered Fall 2023 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Structural Engineering Option

Course Title	Course Number	# Terms	Lecture	Lab/Tut
REQUIRED:				
CIVIL: Structural Capstone Design Project	CVL 70A/B*	1	1	3 Tut.
CIVIL: Structural Concrete Design II	CVL 904	1	3	2 Tut
CIVIL: Bridge Design and Construction	CVL 905	1	3	2 Tut.
CIVIL: Structural Building Systems	CVL 908	1	3	2 Tut.
LIBERAL STUDIES: One course required from the following:				
ENGLISH: Science Fiction	ENG 503	1	3	
GEOGRAPHY: Technology and the Contemporary Environment	GEO 702	1	3	
HISTORY: Scientific Technology and Modern Society	HST 701	1	3	
PHILOSOPHY: Religion, Science and Philosophy	PHL 709	1	3	
POLITICS: Power, Change and Technology	POL 507	1	3	

EIGHTH SEMESTER

Revised Curriculum First Offered Winter 2024 for Students Admitted Fall 2020 and After

(For Students Admitted Fall 2019 and Earlier, please see Former Curriculum starting on Page 12 of this Student Handbook)

Structural Engineering Option

Course Title	Course Number	# Terms	Lecture	Lab/Tut
REQUIRED:				
COMMON ENGINEERING: Law and Ethics in Engineering Practice	CEN 800	1	3	
CIVIL: Structural Capstone Design Project	CVL 70A/B*	1	1	3 Tut.
CIVIL: Environmental Science and Impact Assessment	CVL 300	1	3	1 Tut
CIVIL: Renovation/Repair of Existing Structures	CVL 906	1	3	2 Lab
CIVIL: Pavement Materials and Design	CVL 914	1	3	2 Lab

*CVL 70A/B is a two-term course. Students must continue the same Capstone Design project they started in the Fall.

COURSE DESCRIPTIONS

CEN 100 Introduction to Engineering

This course is aimed at familiarizing the first year students with the basic information of the academic structure and expectations. Exposure to public and worker safety and the impact of engineering activities on health as well as safety standards and safety codes will be covered. The course also stresses integration with other first year courses. The principal objectives of the course are to provide a general introduction to the field of engineering; to convey the social, professional, and ethical responsibilities of engineers and why they are important to an engineering education; to introduce the undergraduate engineering programs available at Toronto Metropolitan University; and to provide a general description of the skills needed to become a practicing engineer. Case studies in engineering are used to illustrate engineering fields and scientific principles.

Weekly Contact: Lect: 2 hrs / Tut: 1 hr.
GPA Weight: 1.00
Billing Units: 1
Custom Requisites: *Only available to Engineering and Engineering Special Students.*
Count: 1.00

CEN 199 Writing Skills

All engineering students are required to write a mandatory Writing Skills Test (WST) administered during Orientation Week before the beginning of the first semester. Students who pass the WST (grade of 'B' or higher) may enrol in their chosen breadth elective (liberal studies) courses. Those students who do not pass the WST will be required to enrol in LNG 111, LNG 112, LNG 113, or LNG 121 as a breadth elective (lower level liberal studies) course. Students who do not pass the WST will have three additional chances to write the WST. The second test will be scheduled in May following the completion of the first year Engineering curriculum. The third and fourth WST will be administered during the next academic year Orientation Week, and again, in May. This course must be successfully completed prior to enrolling in third-year engineering courses. This course is graded on a pass/fail basis.

Weekly Contact: Lab: 1 hr.
GPA weight: *1.00*
Count: *1.00*

CEN 800 Law and Ethics in Engineering Practice

Study of the legal and ethical aspects of engineering practice, including Canadian legal system and business organizations, tort liability, business contract law, intellectual and industrial property, principles of arbitration and alternative dispute resolutions, the practice of engineering, occupational health and safety, ethical aspects of engineering practice, ethical dilemmas in project management, sustainable development and ethical behavior, and globalization and international standards for ethical and social responsibility.

Weekly Contact: Lecture: 3 hrs
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CHY 102 General Chemistry

This course is intended for Engineering students. This course deals with stoichiometry, gases, liquids and solids, chemical equilibria, thermodynamics, kinetics, nuclear chemistry and electrochemistry. The treatment of these topics will emphasize problem solving and calculation.

Weekly Contact: Lecture: 3 hrs. Lab: 1 hr.
GPA weight: *1.00*
Billing Units: *1*
Count: *1.00*
Antirequisites: CHY 103, CHY104, CHY123, CHY182, CHY183

CMN 432 Communication in the Engineering Professions

Communication lies at the heart of the engineering professions. This course introduces students to the unique and varied communication challenges of their discipline. Through a combination of lectures, workshops, readings, and online simulations, students are exposed to the types of communication they will engage in as professionals and given the opportunity to refine their analytical, writing, presentation, and problem-solving skills.

Weekly Contact: Lecture: 2 hrs. Lab: 2 hrs.
GPA weight: *1.00*
Billing Units: *1*
Count: 1.00

CPS 125 Digital Computation and Programming

This course introduces concepts, theory and practice of computer programming, using the C programming language. Topics covered include: C program form, language statements, pseudo-code algorithmic representation, numeric data types, flow of control with selection and repetition, standard C libraries, functions and call modes, arrays, pointers, sorting, matrix operations, character and string data types, dynamic storage, structures and linked lists, file I/O.

Weekly Contact: Lecture: 3 hrs. / Lab: 2 hrs.
GPA Weight: 1.00
Billing Units: 1
Count: 1.00
Antirequisite: CPS188

CVL 70A/B Structural Capstone Design Project A/B

A design project for all areas of Civil Engineering. Students complete a design for a real-life project from industry. Students work in teams of 4 - 6 per group or as instructor dictates. Teams submit at least two design alternatives and evaluate them based on economic, environmental, and other considerations. Typically, each team determines the best alternative in the fall and completes a detailed design in the winter, along with oral presentation and written report.

Weekly Contact: Lecture: 1 hr. Tutorial: 3 hrs.
GPA weight: *2.00*
Billing Units: 1
Count: *2.00*
Prerequisites: CVL312, CVL 313, CVL 410, CVL411, CVL600, CVL609

CVL 71A/B Environmental Capstone Design Project A/B

A design project for all areas of Civil Engineering. Students complete a design for a real-life project from industry. Students work in teams of 4 - 6 per group or as instructor dictates. Teams submit at least two design alternatives and evaluate them based on economic, environmental, and other considerations. Typically, each team determines the best alternative in the fall and completes a detailed design in the winter, along with oral presentation and written report.

Weekly Contact: Lecture: 1 hr. Tutorial: 3 hrs.
GPA weight: 2.00
Billing Units: 1
Count: 2.00
Prerequisites: CVL 400 and CVL 602

CVL 72A/B Transportation Capstone Design Project A/B

A design project for all areas of Civil Engineering. Students complete a design for a real-life project from industry. Students work in teams of 4 - 6 per group or as instructor dictates. Teams submit at least two design alternatives and evaluate them based on economic, environmental, and other considerations. Typically, each team determines the best alternative in the fall and completes a detailed design in the winter, along with oral presentation and written report.

Weekly Contact: Lecture: 1 hr. Tutorial: 3 hrs.
GPA weight: 2.00
Billing Units: 1
Count: 2.00
Prerequisites: CVL 316 and CVL 735

CVL 207 Graphics

Principles of traditional descriptive geometry of points, lines, planes and solids, done with modern tools. Selections, auxiliary views, intersections and developments, pictorial drawings. Principles of 2D and 3D computer-aided drafting (AutoCAD) used in areas of civil engineering. Structural drafting pertaining to steel, concrete and timber construction, standards and conventions. Drafting room and computer lab exercises are assigned. Constructed solutions with vector diagram projection; comparison with equivalent vector algebraic methods. Graphical statistics, concurrent force problems including pure axial force plane structures.

Weekly Contact: Lecture: 2 hrs. Lab: 2 hrs.
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 300 Environmental Science and Impact Assessment

This course overviews the environmental disturbances and the roles of civil engineers in environmental protection. Concepts of sustainability and pollution prevention are reviewed. In order to achieve sustainable development, it introduces the concepts and methods of environmental impact assessment in Ontario and Canada. It examines the biological, economic, and social impacts that are commonly associated with development activities and the means used to predict, evaluate, and mitigate impacts in human and natural environments. It includes a review of the history of environmental assessment and its relation to environmental planning principles. The course concludes with a review of current practice in impact assessment and the major controversies in the field.

Weekly Contact: Lecture: 3 hrs. Tutorial: 1 hr.
Prerequisites: CEN100 and CHY102

GPA Weight: 1
Billing Unit: 1
Count: 1.00

CVL 312 Computer Aided Structural Analysis

Flexibility and stiffness methods, applications to trusses, beams and frames; computer analysis of structures; structural analysis programs; formulation of plane stress and plane strain problems; introduction to the finite element method of analysis.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: *1.00*
Billing Units: *1*
Count: *1.00*
Prerequisites: CEN 199, CVL 313 and MTH 510

CVL 313 Structural Analysis

Deflections of structures: moment-area theorems, conjugate-beam method, virtual work and Castigliano's theorem. Approximate analysis of statically, indeterminate structures. Analysis of continuous beams and frames using the slope-deflection methods. Analysis of statically indeterminate structures using the moment-distribution method. Influence Lines for statically determinate structures.

Weekly Contact: Lect: 3 hrs. Tutorial: 2 hrs.
Prerequisites: CEN 199 and CVL 420
GPA Weight: 1:00
Billing Units: 1
Count: 1.00

CVL 316 Transportation Engineering

Introductory level course on transportation engineering, including transportation system characteristics, classification, mathematical models, and modes; transportation planning (trip generation, trip distribution, mode choice, and traffic assignment); highway geometric design; traffic flow characteristics; capacity and level of service; queuing and simulation models; and evaluation of transportation impacts.

Weekly Contact: Lecture: 3 hrs. Tutorial: 1 hr.
Prerequisite: MTH 425
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 320 Strength of Materials I

Analysis of trusses, frames, beams, arches and cables. Analysis and diagrams of reactions, shear forces and bending moments. Review of moments of inertia. Normal, shearing, and bearing stresses. Deformation and strains. Temperature effects. Stress-strain relationship and the generalized Hooke's law. Axial loading applications and pressure vessels. Stress concentrations. Stress transformation equations and Mohr's circle for plane stress analysis. Analysis of plane stresses and strains. Strain measurement and rosette analysis. Laboratory work for experimental learning.

Weekly Contact: Lecture: 3 hrs. Lab: 3 hrs.
Prerequisites: CEN 100, MTH 141, MTH 240, MTL 200, PCS 125, PCS 211
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL323 Fundamentals of Surveying

Introduction to surveying theory and techniques; distance, angular and height measurement methods; traversing and traverse adjustments; field calibration of instruments; topographic mapping; coordinate geometry; geometry of horizontal and vertical curves; curves and construction layout; use of surveying software.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
Prerequisites*:* CVL 207 and MTH 240 and PCS 125
GPA Weight: 1.00
Billing Units: 1.
Count: 1.00

CVL 352 Geomatics Measurement Techniques

Introduction to photogrammetry, remote sensing, satellite positioning and geographic information systems; Introduction to the use of various sensors and techniques for the acquisition of precise metric and attribute data. Applications in the field of geomatics and civil engineering.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
Prerequisite: CEN199 and CVL 323
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 354 Remote Sensing and Image Analysis

The course covers an overview of the principles of remote sensing and image analysis from a Geomatics Engineering perspective. Topics include: basic characteristics of electromagnetic radiation, radiation interactions with terrestrial materials and atmospheric effects, remote sensing platforms, active and passive sensors, geometric and radiometric corrections, visual image interpretation, image enhancement and transformation, thematic classification, applications of change detection, environmental monitoring and mapping.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
Prerequisites: CEN 199, PCS 125 and CVL405
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL400 Hydrology and Water Resources

Introduction to hydrologic principles. Components of the hydrologic cycle: Precipitation, interception, abstraction, infiltration, evapotranspiration, overland runoff, stream flow. Hydrological data measurement and monitoring. Rainfall-runoff relationships and analyses: unit hydrograph theory, synthetic hydrographs, flow routing. Flow through porous media: saturated and unsaturated groundwater flow, well hydraulics and pumping tests. Urban hydrology: The Rational Method, sewer system hydraulics, detention basin design. Use of computer simulation models for urban and rural watersheds.

Weekly Contact : Lecture 3 hrs. Lab: 1 hr. Tutorial : 1 hr.
Prerequisites: CEN199, MTL200, PCS125, CVL405 and CVL502
GPA Weight: 1
Billing Units: 1
Count: 1.00

CVL 405 Probability and Statistics for Engineers

Description of statistical samples in civil engineering. Measurement errors. Elements of probability theory. Discrete probability distribution. Continuous probability distributions: uniform on an interval, Normal distribution, t-distribution, Exponential distribution, x^2 distribution. Confidence interval and hypothesis testing concerning mean, variance and population. F-distribution. Correlation and covariance. Covariance propagation. Multi-dimensional Normal distribution. Error ellipse and error ellipsoid. Principles of least-squares estimation.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
Prerequisites: CPS125, MTH141 and MTH240
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 410 - Structural Concrete Design I

Limit state design of continuous beams and one-way slabs for flexure, shear and serviceability; shear friction and horizontal shear transfer; development, anchorage, and splicing of reinforcement; bar cut-offs for tension and compression reinforcement; design of short column for combined bending and axial compression; design of slender columns; types of footings; design of strip, isolated and combined footings.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
Prerequisites: CEN 199 and CVL500
GPA Weight: 1.00
Billing Units: 1

CVL 411 Structural Steel Design

Design of continuous beams and Plate girder; Composite floor system; Beam-column design; overall column stability; tension members; welded and bolted connections; base plates under axial load and bending; fatigue design of structural steel; crane girder design; Beams with web openings; Complete design of Gerber girder system.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs
Prerequisites: CEN 199, CVL 313 and CVL 500
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 420 Strength of Materials II

Torsion and angle of twist. Beam bending. Flexural and shear equations. Compound stresses. Theories of failure. Deflection of beams. Euler's formula for columns and its modification for codes. Inelastic behaviour of members. Experimental laboratory work involving flexural stress, deflection of beams and buckling load of columns.

Weekly Contact: Lecture: 3 hrs. / Lab: 2 hrs
Prerequisite: CVL 320
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 423 Geology for Engineers

This course provides Civil Engineering students with an understanding of the physical world in which they work and live. The course deals with the following topics: structure of the earth, plate tectonic theory and continental drift, minerals, rocks and their mode of formation, erosion and weathering, soil formation, folding and fracturing of rocks, earthquakes, volcanoes, glacial landforms and permafrost, ground and surface water, rock mass stability, mass wasting, and the physiography of Canada. The engineering significance of each topic is illustrated by practical examples. Laboratory activities include mineral and rock identification and interpretation of topographic and geological maps.

Weekly Contact: Lecture: 3 hrs. / Lab: 1 hr.
Prerequisites: CHY 102, PCS 125 and PCS 211
Billing Units: 1
GPA Weight: 1.00
Count: 1.00

CVL 434 Geotechnical Properties of Soils

Introduction of structural and glacial geology; rock cycle; mineral and soil identification and classification; clay soil structure; weight-volume relationship; Atterberg limits; relative density; seepage theory; hydraulic conductivity measurements in the field and in the lab; flow nets; and principle of effective stress. Mohr-Coulomb failure criterion; shearing strength of saturated soils; consolidation theory, settlement prediction and computer assisted processing of laboratory test results.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
Prerequisite: CVL 320
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 500 Introduction to Structural Design

Types of structures; Loads, load factors and load transfer; Properties of structural steel, Behaviour and design of steel compression members and statically-determinate steel beams; Properties of concrete and reinforcing steel; Behaviour of uncracked and cracked reinforced concrete beams; Design of statically-determinate one-way slabs and rectangular, T and L beams for ultimate and serviceability limit states; Design of reinforced concrete short columns. Behaviour and design of timber members subjected to bending, axial compression and combined bending and compression.

Weekly Contact: Lecture: 3 hrs. / Tutorial.: 2 hrs.
Prerequisites: CEN 199 and CVL 420
GPA Weight: 1.00
Billing Units: 1
Count: 1.00

CVL 501 Fluid Mechanics and Hydraulics

Fluid mechanics. Fluid properties. Fluid statics. Forces on submerged bodies and planes. Fluid motion: flow path, velocity, acceleration, continuity, energy and momentum equations. Dimensional analysis and model similitude. Hydraulic applications in conduit flows: flow classification, shear stress and velocity distribution, pipe friction formula, energy equations, pump/pipeline systems. Open channel flow: application of the energy, momentum and continuity equations, channel bed friction, steady and uniform flow, specific energy, hydraulic jump, gradually varied flow, natural channel designs. Appropriate experimental laboratory work related to the area of hydraulic engineering.

Weekly Contact : Lecture : 3 hrs. Lab : 1 hr. Tutorial : 1 hr.

Prerequisites: CEN 199 and CVL 400
GPA Weight: 1
Billing Unit: 1
Count: 1.00

CVL 502 Hydraulics Engineering

Hydraulic applications in conduit flows: flow classification, shear stress and velocity distribution, pipe friction formula, energy equations, pump/pipeline systems. Open channel flow: application of the energy, momentum and continuity equations, channel bed friction, steady and uniform flow, specific energy, hydraulic jump, gradually varied flow, natural channel designs. Hydraulic structures and analysis of looped pipe systems. Appropriate experimental laboratory work related to the area of hydraulic engineering.

Weekly Contact: Lecture 3 hrs. Lab 1 hr. Tutorial 1 hr.
GPA Weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: MEC522

CVL 533 - Concrete Materials

Introduction to concrete as a construction material: performance requirements, strength, and durability. Aggregates: types, processing, beneficiation, testing, and quality control. Reclaimed concrete aggregates: uses and properties. Portland cement of different types: raw materials, manufacturing, composition, physical properties, testing, blended cement, hydration, and porosity. Supplementary Cementing materials: types, properties, hydration, and effects on concrete. Design of concrete mixtures for different applications. Chemical admixtures: types and uses. Mixing, placing, finishing, fresh and hardened properties and quality control testing of concrete. Concrete durability: freezing and thawing, reinforcement corrosion and chemical attacks. Volume change in concrete: shrinkage of different types, deformation and creep.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN 199 and CVL 320

CVL 600 - Foundation Engineering

Soil exploration, Active and Passive earth pressure calculations. Slope stability, Design of earth retaining structures, open and supported excavations, Design of shallow foundation, Soil bearing capacity and settlement. Design of pile foundation and drilled caissons.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN 199 and CVL 434

CVL 601 - Wastewater Engineering

Wastewater collection: sewer system components, design of sanitary sewers, system layout and flow hydraulics. Sewage treatment: primary, secondary, tertiary processes. Wastewater microbiology: microorganism classification, population dynamics, kinetics of decomposition. Unit processes of secondary treatment: trickling filters, activated sludge, rotating biological contactors. Sludge

management, treatment, and ultimate disposal. Experimental laboratory work involving sedimentation model, chemical treatment: coagulation and flocculation, nutrients, biochemical oxygen and microscopic analyses of sludge.

Weekly Contact: Lecture: 3 hrs. Lab: 1 hr. Tutorial: 1 hr.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN 199, CVL400, and CVL 501

CVL 602 – Municipal Engineering

The course introduces aspects of planning, design, operation and maintenance of municipal infrastructure systems. An overview of regulations relevant to land development, urbanization and design of municipal infrastructure are covered. Topics on water distribution systems, and wastewater and stormwater collection systems are addressed through design exercises, including: pumping, distribution and storage of drinking water; collection and management of sanitary and combined sewage; stormwater management and low impact development; and deterioration and rehabilitation of buried infrastructure.

Weekly Contact: Lecture 3 hrs. Lab 1 hr. Tutorial 1 hr.
GPA Weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN199, CVL400 and CVL502

CVL 609 - Civil Engineering Systems

This course provides an introduction to systems analysis tools that facilitate decision-making in engineering design and management. Particular emphasis is placed on fundamentals of systems approach, linear programming, integer programming, multi-objective programming, dynamic programming, sensitivity analysis, Monte Carlo simulation, and decision-making under uncertainty. Applications of these tools are tailored to design and management of various civil engineering systems depending on whether a student is enrolled in the Civil Engineering program or the Structural Engineering option.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN 199, ECN 801, MTH 510 and CVL 405

CVL 633 - Highway Materials

Pavements types: flexible, rigid and composite. Properties, testing and selection of aggregates for highway purposes. Subgrade preparation and testing. Effects of environment on highways: water infiltration, ice lenses, frost heave and spring breakup. Highway drainage and design of soil filters. Use of geotextiles in highway construction. Soil stabilization for highways: types and applications. Performance-Graded Asphalt Binder: development, testing, and short and long-term performance. Design of asphalt mixtures using Marshall and SUPERPAVE methods. Construction and quality control: plant mix, types of asphalt plants, hot and cold recycling, and end-result specification for pavement works.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN 199, CVL 320 and CVL 434

CVL 650 - Satellite Positioning for Civil Engineers

Basic concepts of satellite positioning and applications; datums and coordinate systems; orbital determination; GNSS signal structure, pseudorange and carrier-phase measurements; GNSS errors and biases; linear combinations of GNSS observables; GNSS positioning modes, absolute and relative positioning, static, kinematic and real-time kinematic (RTK) GNSS positioning; Communication links; GNSS data and correction services.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 352 and CVL 405

CVL 735 - Highway Design

The selection of design elements by explicitly considering design controls, human factors, and the safety, operational, environmental and other consequences of design decisions is the underlying philosophy adopted for the following major topics: design of horizontal and vertical alignment and cross-section elements; alignment coordination; intersection and interchange design; and roadside design, including barriers and guiderail. Hydraulic design of urban and rural highway drainage facilities is also covered.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CEN 199 and CVL 323

CVL 736 - Geospatial Information Systems

Introduction to geographical information systems (GIS) and science; hardware and software components; geo-referencing of geospatial data; vector and raster data representation and topological relationships; GIS databases; vector and raster data exploration, analysis and processing; data display and visualization; spatial analytical modeling; data quality, integration, and standards; concepts of web GIS and mapping services; GIS project design and implementation.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisite: CVL 352

CVL 742 - Project Management

Aims to develop a body of knowledge, methods, skills and techniques that are essential for students to successfully manage future engineering projects within budget, deadline and resource limits. Topics discussed include: introduction to project management body of knowledge (PMBOK); project delivery systems and contracting methods; budget estimate and bid cost estimate; project planning, work breakdown structure; project scheduling: critical path method (CPM) and network diagram, resource allocation and leveling, line of balance (LOB), integration of CPM and TLOB; project control and earned value analysis; project risk management, impact of uncertainty on schedule and cost, PERT; general principles of construction quality, health and safety management. Computer software for cost estimation and scheduling will be practiced in laboratory sessions.

Weekly Contact: Lecture: 3 hrs. Lab: 1 hr.
GPA weight: 1.00

Billing Units: 1
Count: 1.00
Prerequisites: ECN 801
Antirequisites: EMS 304 and IND 713

CVL 900 - Pavement Design and Management

Introduction to pavement: pavement types and properties. Pavement performance and distress. Stress analysis of flexible and rigid pavements. Properties and characterization of paving materials. Design of flexible and rigid pavement using AASHTO and MTO methods. Design of overlays. The mechanistic-empirical approach of pavement design. Advances in pavement construction and rehabilitation. Pavement management systems. Review of highway and rehabilitation projects.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 633
Antirequisites: CV8405

CVL 901 - Municipal Solid Waste Management

Introduction to legislation and authority; integrated solid waste management planning; solid waste generation, characterization, and collection; collection and processing; reduction, reuse, and recycle; landfilling of municipal waste, site selection, development, hydrological factors, leachate and gas collection and control, closure; solid waste incineration.

Weekly Contact: Lecture: 3 hrs. Tutorial: 1 hr.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 602

CVL 902 - Traffic Operations and Management

Introductory topics related to the management of traffic on urban and rural road networks, including bicycle and pedestrian facilities. Topics include: capacity analysis for interrupted and uninterrupted flow facilities; deterministic and stochastic models for traffic flow; traffic simulation principles; freeway traffic management; signal timing for isolated intersections, networks and arterials; adaptive traffic control; safety of traffic management and engineering principles and techniques.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 316
Antirequisites: CV8401

CVL 903 - Water Resources Engineering

Development of water resources systems; statistical analysis of hydrologic data; drainage and runoff analysis; flood control and management; water pollution prevention and control planning; storage and conveyance system design and management; natural channel design and rehabilitation; comprehensive water resources development.

Weekly Contact: Lecture: 3 hrs. Lab: 1 hr.

GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 400 and CVL 502

CVL 904 - Structural Concrete Design II

Truss model and compression field theory for beams failing in shear and torsion; design of deep beams and corbels; design of two way slab systems using direct design method with beams and drop panels; design of two-way slab floor using elastic frame method. Introduction to prestressed concrete: pretensioning vs. post-tensioning technology; prestressing material properties; behaviour and design of statically-determined prestressed concrete beams in flexure, shear and serviceability; design of precast concrete hollow-core slabs and double-tee beams for building construction.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 410
Antirequisites: CV8307

CVL 905 - Bridge Design and Construction

Types of bridges; bridge loads; load distribution in bridge superstructures; simplified methods of analysis, with reference to the Canadian Highway Bridge Design Code; design of slab bridges; design of slab-beam bridges; Acceleration bridge construction; Bridge evaluation; Bridge Testing; student presentations on selected topics.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 411
Antirequisites: CV8308

CVL 906 - Renovation/Repair of Existing Structures

Rehabilitation of civil infrastructure systems including aspects of deterioration science, nondestructive assessment, maintenance, renovation, rehabilitation and preservation of infrastructure; mechanisms of mechanical, chemical and biological infrastructure degradation; corrosion of steel condition surveys and evaluation of buildings and bridges repair and preservation materials, techniques and strategies; renewal engineering, construction planning, management, public policy, codes and guidelines; case studies.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 410 and CVL 533
Antirequisites: CV8303

CVL 908 - Structural Building Systems

Loads and loading cases in multi-storey building. Shear wall-frame interaction. Determination of forces using torsion analysis of buildings with randomly distributed concrete shear walls or steel bracings. Concrete and steel column stability. Design details of low-rise concrete and steel buildings. Analysis and design using computer software. Mat foundation, pile caps, retaining walls, tanks, swimming pool, pump

stations. Masonry materials, stress analysis and flexural design. Axial load and bending design for masonry walls and columns.

Weekly Contact: Lecture: 3 hrs. Tutorial: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL312, CVL 410, CVL 411
Corequisite: CVL 904

CVL 910 - Transportation Planning

Treatment of the process and techniques of transportation planning, with emphasis on urban and regional applications. Topics include: historical development of transportation planning in North America; transportation planning framework; surveys and data collection; transportation-land use interaction; analysis and models of transportation demand; analysis and models of transportation performance; development and evaluation of transportation planning options.

Weekly Contact: Lecture: 3 hrs. Lab: 1 hr.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 316

CVL 913 - Water Supply Engineering

Water quality parameters; Drinking water sources, quantity and quality requirements; Water chemistry; Unit processes of water treatment: screening; solids separation; coagulation; flocculation; sedimentation; filtration; softening; disinfection. Treated water distribution: flow in looped pipe network systems; monitoring; applications of computer modelling. Experimental laboratory work involving water quality determination: solids, alkalinity, hardness, disinfection, coliform and bacterial analyses.

Weekly Contact: Lecture: 3 hrs. Lab: 1 hr. Tutorial: 1 hr.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 601

CVL914 – Pavement Materials and Design

Pavement types: flexible, rigid and composite. Properties, testing and selection of aggregates for pavement purposes. Subgrade types and testing. Effects of environment on highways: water infiltration, ice lenses, frost heave and spring breakup. Design of soil filters and subsurface drainage. Introduction to the use of geotextiles in highway construction. Design of asphalt mixtures using Marshall and SUPERPAVE methods. Design of flexible and rigid pavement using AASHTO and MTO methods. Introduction to the mechanistic-empirical approach of pavement design.

Weekly Contact: Lecture: 3 hrs. Lab: 2 hrs.
GPA weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL 434

CVL 920 - Water and Wastewater Treatment Engineering

The course will introduce students to the composition of water and wastewater, and address methodologies relevant to the engineering design and analysis of processes used in water and wastewater treatment. The topics covered in the course include physical, chemical and biological processes, as well as sludge handling and management. The course includes a laboratory component, where the students will perform hands-on experiments related to the above processes.

Weekly Contact: Lecture 3 hrs. Lab 1 hr. Tutorial 1 hr.
GPA Weight: 1.00
Billing Units: 1
Count: 1.00
Prerequisites: CVL602

ECN 801 Principles of Engineering Economics

Engineering economics is concerned with the problem of investment decision making or capital expenditure analysis. An 'investment' problem involves making a decision to allocate financial resources to acquire productive assets that will generate cash flows in future time periods. Engineering economics seeks to develop and apply a logically consistent methodology for evaluating investment projects. Discounted cash flow methods are used in analyzing such projects. In this course we will assume certain cash flows and ignore taxation implications. After developing the mathematics of cash flow equivalence, absolute and relative measures of project worth will be developed and applied to individual and multiple projects. The emphasis will be on private project decisions, but similar methods will be applied to public sector projects.

Lect: 3 hrs. Weekly

GPA Weight: 1.00

Billing Units: 1
Count: 1
Custom Requisites: Available only to Bachelor of Engineering students.

MEC 522 Fluid Mechanics

Fluid Mechanics. Fluid Properties. Fluid Statics. Manometry. Forces on submerged planes. Fluid motion: velocity, acceleration. Continuity, energy and momentum equations. One dimensional flow in conduits. Dimensional analysis. Model testing.

Lect: 3 hrs. Lab: 1 hr.
Prerequisites: MTH 141, PCS 211, CPS 125, CVL 207, MTH 240 and MTL 200
GPA weight: *1.00*
Billing Units: *1*

MTH 140 Calculus I

Limits, continuity, differentiability, rules of differentiation. Absolute and relative extrema, inflection points, asymptotes, curve sketching. Applied max/min problems, related rates. Definite and indefinite integrals, Fundamental Theorem of Integral Calculus. Areas, volumes. Transcendental functions (trigonometric, logarithmic, hyperbolic and their inverses).

Lect: 4 hrs. Lab 2 hrs.
GPA Weight: 1.00
Billing Units: 1

Count: 1
Antirequisites: MTH207, MTH131
*Av*ailable only to Engineering and Engineering Special Students.

MTH 141 Linear Algebra

Systems of linear equations and matrices. Determinants. Vector spaces. Inner product spaces. Eigenvalues and eigenvectors.

Lect: 4 hrs. Lab 1 hr.
GPA Weight: 1.00
Billing Units: 1
Count: 1
Antirequisite: MTH108
Custom Requisites: *Av*ailable only to Engineering and Engineering Special Students.

MTH 240 Calculus II

Integration techniques. L'Hôpital's Rule. Improper integrals. Partial derivatives. Infinite sequences and series, power series. First-order differential equations, with applications.

Lect: 4 hrs. / Lab 1 hr.
Prerequisite: MTH 140
GPA Weight: 1.00
Billing Units: 1
Count: 1
Antirequisites: MTH310 and MTH231
Custom Requisites: *Av*ailable only to Engineering and Engineering Special Students.

MTH 425 Differential Equations and Vector Calculus

Review of first-order ordinary differential equations and applications; Higher-order linear differential equations; Laplace Transforms and ODEs. Scalar and vector functions and fields, Directional Derivative, coordinate systems, divergence and curl of vector fields; line, surface and multiple integrals, Divergence theorem; Green's and Stokes' theorems; Applications.

Lect: 4 hrs. / Lab 2 hrs.
Prerequisites: MTH 140, MTH 141 and MTH 240
Antirequisites: MTH312, MTH330, MTH430
GPA Weight: 1.00
Billing Units: 1
Count: 1

MTH 510 Numerical Analysis

Review of Taylor's formula, truncation error and roundoff error. Solutions of Non linear Equations in one variable. Linear Equations. LU-decompostion. Eigen values and eigenvectors. Jacobi, Gauss-Seidel methods. Interpolation and curve fitting. Numerical integration. Numerical solution of ordinary differential equations. (Initial value problems.)

Lect: 3 hrs. Lab 1 hr
Prerequisites: MTH 141, MTH 240
Antirequisites: MTH501
GPA Weight: 1.00
Billing Units: 1
Count: 1

MTL 200 Materials Science Fundamentals

Atomic structure, atomic bonding in materials, crystallinity, lattice structure. Crystal systems, x- ray diffraction, amorphous materials. Imperfections and diffusion in solids. Phase diagrams and phase transformations. Structures of metals, polymers and ceramics. Corrosion and degradation. Thermal and electrical properties of materials. (2 hr. Lab every other week)

Lect: 3 hrs. / Lab 1 hr.
Prerequisite: CHY 102
GPA Weight: 1.00
Billing Units: 1
Count: 1

PCS 125 Physics: Waves and Fields

Simple harmonic motion; motion of mechanical waves, wave speed; sound, Doppler effect, interference, standing waves, beats and resonance; gravitational fields and potential energy; electric fields and potential energy; electric potential; magnetic fields.

Lect: 3 hrs. Lab 1 hr. Tutorial 1 hr.
GPA Weight: 1.00
Billing Units: 1
Count: 1
Custom Requisites: Restricted to Engineering students only.

PCS 211 Physics: Mechanics

Vector forces: forces along a line, coplanar force systems - essentials of vector algebra in two and three dimensions. Moment of a force; moment of a couple; principle of moments. Free body diagrams and equilibrium conditions. Centre of mass and centroids of bodies. Rectilinear and curvilinear motion kinematics. Newton's laws and equations of motion. Friction. Work and Energy; Linear momentum and angular momentum.

Lect : 3 hrs. Lab 1 hr. Tutorial : 1 hr.
GPA Weight: 1.00
Billing Units: 1
Count: 1
Custom Requisites: Restricted to Engineering students only.

WKT 121: Work Term I – Civil Engineering

Co-operative work term placement with an approved industrial partner, in a professional working environment, interacting directly with engineers and other skilled professionals. Participants will gain valuable experience in several different settings. This course is graded on a pass/fail basis.

Weekly Contact: Lecture: 1 hr.
GPA weight: 0.00
Count: 1.00
Consent: Departmental consent required

WKT 221: Work Term II– Civil Engineering

Co-operative work term placement with an approved industrial partner, in a professional working environment, interacting directly with engineers and other skilled professionals. Participants will gain valuable experience in several different settings. This course is graded on a pass/fail basis.

Weekly Contact: Lecture: 1 hr.
GPA weight: 0.00
Count: 1.00
Consent: Departmental consent required

WKT 291: Double Work Term – Civil Engineering

Co-operative work term placement with an approved industrial partner, in a professional working environment, interacting directly with engineers and other skilled professionals. This two semester work placement recognizes the experience gained by a student in the semester the student is enrolled in this course as well as in the previous semester while not enrolled in a work placement course. Participants will gain valuable experience in several different settings. This course is graded on a pass/fail basis.

WKT 321: Work Term III – Civil Engineering

Co-operative work term placement with an approved industrial partner, in a professional working environment, interacting directly with engineers and other skilled professionals. Participants will gain valuable experience in several different settings. This course is graded on a pass/fail basis.

Weekly Contact: Lecture: 1 hr.
GPA weight: 0.00
Count: 1.00
Consent: Departmental consent required

WKT 421: Work Term IV – Civil Engineering

Co-operative work term placement with an approved industrial partner, in a professional working environment, interacting directly with engineers and other skilled professionals. Participants will gain valuable experience in several different settings. This course is graded on a pass/fail basis.

Weekly Contact: Lecture: 1 hr.
GPA weight: 0.00
Count: 1.00
Consent: Departmental consent required

GLOSSARY / ACADEMIC DEFINITIONS

Extensive information on all core, professional and liberal studies courses will be available to students in their course outline (course management) document. Please refer to these Academic Definitions to understand how to correctly interpret a course description:

Prerequisite - A specific course that must be successfully completed prior to enrolling in an advanced course.

Antirequisite – Courses that contain similar content and therefore cannot both be used towards fulfilling degree requirements.

Billing Units – The measure used to calculate undergraduate tuition fees.

Co-requisite – A course that must be taken concurrently, with or prior to, another course.

Course Hours - The weekly course contact hours associated with a given course may include lecture, seminar, studio and laboratory hours and such activities as unsupervised studio and laboratory work, internship and independent study.

Course Numbers – All current Toronto Metropolitan University courses are identified by a unique alpha-numeric code. The first three letters identify the subject area. The digits indicate whether the course is a one- or two-term course; three digits signifies a one-term course and two digits plus the "A/B" qualifier signifies a two-term course.

Course Substitution/Course Directive - The assessment and approval of a curriculum exception where one course is used as a replacement for another course or is used to fulfill the requirements of an elective group.

Credit Course – A course for which a grade is assigned and for which one semester or year of course credit is granted towards a certificate, diploma or degree.

Curriculum - The prescribed plan of study, approved by Toronto Metropolitan University Senate, leading to a certificate, diploma or degree. The courses that must be successfully completed for the fulfillment of a degree

GPA Weight - A numerical co-efficient (multiplier) used to express a course's relative importance in the calculation of your cumulative grade point average. Single-term courses normally have a GPA weight of 1.00. Multi-term courses normally have a GPA weight of 2.00. GPA weight variances will appear in the individual course descriptions.

Liberal Studies - Studies that develop the capacity to understand and appraise the social and cultural context in which the graduate will work as a professional and live as an educated citizen. Courses are indicated as follows, LL—Lower Level, UL—Upper Level. Some language courses can be both UL and LL. **If it does not say either "LL or UL" in the course description, it is not a Liberal Studies Course.**

Major/Plan - A scholarly focus in an academic subject area offering both breadth and depth such as Biophysics or Human Resources Management, normally consisting of 25 to 30 core courses.

Minor - A minor is a grouping of six or more courses, mainly outside the major, selected by a student from an established minor curriculum. Minors are noted on a student's Official Transcript.

Professional Studies - Studies that induce functional competence by presenting the knowledge and developing the skills characteristic of current practice in the career field.

Program Department - The academic department responsible for the administration of one or more programs.

LIBERAL STUDIES COURSES

IMPORTANT NOTES

Students must complete liberal studies courses as part of the requirements for graduation in all Toronto Metropolitan University programs.

Such studies must be in disciplines outside the student's field of professional specialization; their purpose is to develop the capacity to understand and appraise the social, cultural and scientific context in which graduates will work as professionals and live as educated citizens.

Certain courses cannot be taken for Liberal Studies credit in the civil engineering program or structural engineering option. Students are responsible for ensuring they do not enroll in a restricted course. Please refer to the Lower Level and Upper Level Liberal Studies restrictions listed in this Student Handbook and in the Fall 2026/Winter 2027 Undergraduate Calendar. Please see the course description section for a complete listing of Liberal Studies courses on the online Fall 2026/Winter 2027 Undergraduate Calendar. Courses **not identified** as either (LL) or (UL) **are NOT Liberal Studies** courses and will not be used towards the fulfillment of a Liberal Studies Requirement for graduation purposes. Not all courses will be offered every semester to all students. Please refer to Servicehub for the availability of these courses per semester:

LNG: LANGUAGE AND WRITING COURSES

There are three Lower Level Liberal Studies courses designed for students whose first language is not English:

LNG 111 Language and Identity
LNG 112 Language: Spoken and Written
LNG 113 Language and Public Life

These courses require a placement test, which can be found at the following website: http://www.torontomu.ca/llc/courses

LNG 111, LNG 112 and LNG 113 are available to students who have been assessed as likely to benefit from intensive language and writing courses. Students for whom English is a second language and who are enrolled in programs that accept ESL courses for credit may take all three ESL courses, LNG 111, 112, and 113. However, a maximum of two credits only may be used towards their degree requirements.

There is one Lower Level Liberal Studies course designed for undergraduate students wishing to improve their writing skills: LNG 121, Language and Society. No Placement test is required for this course.

TABLE A – LOWER LEVEL LIBERAL STUDIES RESTRICTIONS

- Students may not choose courses that appear on the restriction list under their program or major. These courses cannot be used to fulfil Liberal Studies requirements.
- Some subjects have a limitation (i.e. a maximum number that may be chosen).
- Restrictions may change from year to year depending on curricular changes

Students may not choose courses that appear on the restriction list under their program or major. These courses do not count towards your degree requirements.

Civil Engineering	AER150, ASC 120 BLG 181, BMS 150, CHY 182, CHY 183, MEC 110, PCS 111, PCS 181, PCS 182 and SCI courses are not available for credit.

TABLE B - UPPER LEVEL LIBERAL STUDIES

IMPORTANT NOTES: Students are responsible for ensuring they do not enroll in a restricted course. Please see Table B - Upper Level Restrictions for more information. Not all courses will be offered every semester to all students. Please checkservicehub for the availability of these courses each semester.

TABLE B - UPPER LEVEL LIBERAL STUDIES RESTRICTIONS

Students may not choose courses that appear on the restriction list under their program or major. These courses do not count towards your degree requirements.

Civil Engineering	BLG 599, BLG 699, BLG 850, CHY 583, CHY 599, CPS 650, MTH 511, MTH 599, PCS 581are not available for credit.

UNDERGRADUATE GRADING SCALE

Below are the graded course performance designations for undergraduate studies:

Performance Description	Letter Grade	Conversion Range Percentage Scale to Letter Grades	Toronto Metropolitan GPA
Excellent	A+	90-100	4.33
	A	85-89	4.00
	A-	80-84	3.67
	B+	77-79	3.33
Good	B	73-76	3.00
	B-	70-72	2.67
	C+	67-69	2.33
Satisfactory	C	63-66	2.00
	C-	60-62	1.67
	D+	57-59	1.33
Marginal	D	53-56	1.00
	D-	50-52	0.67
Unsatisfactory	F	00-49	0.00

Final academic performance in each course is recorded as one of the above letter grades or as one of the 'other' designations listed in the Toronto Metropolitan University Calendar under Other Course Performance Designations.

Senate Policy # 46: Undergraduate Course Grading, Academic Program Standing and Eligibility to Graduate

GRADUATE PROGRAM

Toronto Metropolitan University, a leader in applied education and research, offers a cutting edge graduate program leading to a PhD, Master of Applied Science (MASc) or Master of Engineering (MEng) degree in Civil Engineering. The state-of-the-art program is designed to prepare high-qualified graduate students to play an active role in enhancing the nation's economic, environmental, and social development. Emphasis is placed on combining both traditional methods and the latest innovative technologies to generate an intellectual environment in which students can broaden their expertise with a variety of challenging problems. The program is a unique multi-disciplinary research program covering a variety of civil engineering fields.

PROGRAM OVERVIEW

The **PhD program** requires the successful completion of four one-term graduate courses, the PhD Research Seminar, two (2) seminar presentations, Candidacy Examination and a dissertation based on original research. No undergraduate credits may be taken towards the degree. No less than two of the required four courses must be taken from the Civil Engineering program at Toronto Metropolitan University. The supervisor must approve both the course selections and the dissertation research proposal submitted in writing by the student. With the approval of the supervisor, one of the four courses may be the directed studies course (CV8100), normally conducted by the supervisor. The student's supervisor, after consultation with the student, will recommend to the Associate Chair, Graduate Studies the appointment of a Candidacy Examination Committee. PhD students are encouraged to complete all courses within their first year of registration. Within 16-20 months of initial registration, every student in the PhD program will undertake a candidacy examination. The core aspect of the program is the successful defense of the Doctoral Dissertation.

The **MASc program** requires the successful completion of five one-term courses, the MASc Research Seminar, one seminar presentation, and a research thesis. No undergraduate credits may be taken towards the degree. No less than three of the required five courses must be taken from the Civil Engineering program at Toronto Metropolitan University. The supervisor for each graduate student must approve the graduate course selection. The supervisor must also approve the proposed thesis plan, which will be presented in writing by the student. Course selections are normally confirmed through a Program of Study agreement between supervisor and student. With the approval of the supervisor, one of the five courses may be the directed studies course (CV8100), normally conducted by the supervisor. MASc students are encouraged to complete all courses in their first year of registration. An oral presentation of the research thesis, and results, will be arranged in a seminar format. The examination committee will assess the candidate's research thesis.

The **MEng program** requires the successful completion of ten one-term courses OR eight one-term courses and a major project. No undergraduate credits may be taken towards the degree. No less than half of the required courses must be taken from the Civil Engineering program at Toronto Metropolitan University. The faculty advisor for each graduate student must approve the graduate course selection. The faculty advisor must also approve the proposed project plan, which will be presented in writing by the student. Course selections are normally confirmed through a Program of Study agreement between faculty advisor and student. With the approval of the faculty advisor, one of the eight or ten courses may be the directed studies course (CV8100), normally conducted by the faculty advisor.

Award winning professors conduct research and teach courses in the major fields of Environmental Engineering, Geomatics Engineering, Structural Engineering, and Transportation Engineering, which are described below, as well as in Geotechnical Engineering, Materials Engineering, and Construction and Infrastructure Management.

AREAS OF SPECIALIZATION

Environmental Engineering

The field of Environmental Engineering covers: urban facilities, infrastructure and environment, environmental informatics, urban water and waste systems, environmental geomatics technologies including environmental remote sensing and GIS-based environmental decision support systems, monitoring, modelling and optimization of innovative stormwater management techniques.

Geomatics Engineering

Geomatics Engineering research includes the areas of geospatial information and GIS, photogrammetry and digital mapping, remote sensing and image processing, satellite positioning and navigation, as well as in some new emerging directions such as mobile mapping, big geospatial data analytics, geospatial cloud computing, knowledge discovery, LiDAR, and innovative geomatics applications.

Structural Engineering and Materials

This field focuses directly on the various civil engineering means by which the country can deal with the matter of deteriorating built infrastructure. The main components of the field are structural engineering, construction materials and pavements, geotechnical engineering, and construction project management.

Transportation Engineering

Graduate study in transportation at Toronto Metropolitan University prepares students for a professional research career in road safety, highway design, urban transportation systems, planning, design and management of transportation systems with emphasis on the road and transit infrastructure.

In addition to the above specialization areas, the students can also conduct research in the areas of Construction and Infrastructure Management and Geotechnical Engineering, where specialized faculty members are available to supervise.

ADMISSION REQUIREMENTS

PhD: - Completion of Master's degree in a related Engineering or Applied Science field
- Minimum B+ (3.33/4.33) average
- 2 Letters of Recommendation, both must be academic

MASc - Completion of a 4 year Bachelor's degree in Civil Engineering or a related field
- Minimum B (3.00/4.33) average
- 2 Letters of Recommendation, one of which must be academic

MEng - Completion of a 4 year Bachelor's degree in Civil Engineering or a related field
- Minimum B (3.00/4.33) average
- 2 Letters of Recommendation, one of which should be academic

All applicants who have not completed their previous degrees in English will be required to complete an English Language test, such as TOEFL or IELTS, to be considered for admissions.

More information and forms for admissions can be found at Yeates School of Graduate and Postdoctoral Studies Admissions Office located at 1 Dundas Street West on the 11th floor or please see www.TorontoMetropolitan.ca/graduate/admissions.

EXPENSES AND FINANCIAL SUPPORT

MASc and PhD students are eligible for a number of scholarships offered by Toronto Metropolitan University, as well as academic and research assistantships. All candidates applying before the published first-consideration deadline on our website are automatically entered in the competition as part of the application process. Students are encouraged to apply for scholarship support from the Natural Sciences and Engineering Research Council (NSERC) and the Ontario Graduate Scholarship (OGS) programs. These scholarships require separate application. More information on financial assistance is available on the Yeates School of Graduate and Postdoctoral Studies Admissions web site at https://www.TorontoMetropolitan.ca/graduate/future-students/financing-your-studies/.

RESEARCH AREAS

Four Fields of Study exist in the Graduate Program in the Department of Civil Engineering at Toronto Metropolitan University, as well as two additional areas of specialization (with limited course offerings and resources).

Fields of Study:

Environmental Engineering

The field of environmental engineering covers urban facilities, infrastructure and environment, environmental informatics, and urban water and waste systems. Studies in environmental geomatics technologies is also offered, such as environmental remote sensing and geographic information systems (GIS)–based environmental decision support systems, monitoring, modelling and optimization of innovative stormwater management techniques.

Career opportunities abound with a variety of leading Canadian and international engineering firms such as WSP Global Inc., AECOM, Stantec, as well as municipalities and government agencies, including the City of Toronto, Environment Canada, and the Ontario Ministry of the Environment, Conservation & Parks. The skills you acquire can also be applied to areas outside of engineering, such as land development and municipal infrastructure planning and management.

- Anaerobic digestion
- Biogas production
- Bioaccumulations of toxins in aquatic space
- Eco-hydrology and eco-hydraulic engineering
- Green engineering
- Industrial oil/chemical spill management
- Innovative wastewater treatment technologies
- Modelling of watershed and landfill design
- Resources recovery from wastes
- Urban stormwater management practices
- Urban water and waste systems

Geomatics Engineering

Geomatics engineering research includes the areas of geospatial information and geographic information systems (GIS), photogrammetry and digital mapping, remote sensing and image processing, as well as satellite positioning and navigation. New, emerging directions include mobile mapping, geospatial cloud computing, knowledge discovery, light detection and ranging (LiDAR), and innovative geomatics applications.

As a graduate of this field of study, you will be qualified for employment with a variety of leading Canadian and international geomatics engineering firms such as PCI Geomatics, Teledyne Optech, and ESRI Canada, as well as municipalities and government agencies, including the City of Toronto, Ontario Ministry

of Transportation, Ontario Ministry of Environment, and Natural Resources Canada. The skills you acquire can also be applied to areas outside of engineering such as urban planning, defense and natural resource management.

- 3D/4D city modeling, building information management and visualization
- Big geospatial data analytics for smart cities
- Multi-sensor integration for mobile mapping and intelligent transportation systems
- Photogrammetry, 3D imaging, deformation monitoring and metrology
- Real-time and collaborative geographical information systems
- Remote sensing and image processing (e.g., automated object extraction and LiDAR data processing)
- Satellite positioning and navigation
- UAV sensor integration and real-time mapping

Structural Engineering

This field focuses on the various means for dealing with deteriorating built infrastructure, including earthquake engineering, construction materials and pavements, geotechnical engineering, and construction project management.

As a graduate of this field of study, a world of employment opportunities awaits with a variety of leading Canadian and international engineering firms such as CIMA+, LafargeHolcim, King Package Materials, Metrolinx, AECON, HATCH Group, Stantec, Dessau, EllisDon, Genivar, Golder, Morrison Hershfield, PCL Construction, SNC-Lavalin and WorleyParsons, and municipalities and government agencies, including the City of Toronto, Region of Peel, Environment Canada, NRC, as well as various positions in academia. The skills you acquire can also be applied to areas outside of engineering such as higher management, architectural and computer sciences, urban planning, law and policies, aerospace, and forensic sciences.

- Aggregate reactions: Oxidation of sulphide minerals and alkali-aggregate reactions
- Applications of advanced composite materials in bridges and structures
- Behavior of structures and properties of concrete materials
- Bridge design, construction, repair and rehabilitation
- Deterioration and rehabilitation of infrastructures
- Earthquake-resistant steel buildings with self-centering systems/materials
- Evaluation and development of test methods for concrete durability under harsh environment
- High-strength/performance concrete and reactive powder concrete
- Offshore structures
- Performance based design of concrete liquid containing structures including liquid-structure-soil interaction effects
- Response of structures to wind actions using experimental wind tunnel testing and computational fluid dynamics
- Seismic analysis, design, and performance-based assessment of structures
- Strength of steel and composite concrete-steel members
- Structural Health Monitoring
- Sustainable development of self-consolidating concrete
- Tall building and long span bridge aerodynamics
- Thunderstorm wind speeds suitable for structural design
- Use of industrial by-products in concrete and asphalt

Transportation Engineering

Graduate studies in this field involves research in road safety, highway design, urban transportation systems, planning, design and management of transportation systems with emphasis on our road and transit infrastructure.

As a graduate of this field of study, you will be qualified for jobs with leading Canadian companies, municipalities and government agencies such as WSP, CIMA+, TTC, the City of Toronto, Peel Region, York Region, and the Ministry of Transportation. The skills you acquire can also be applied to areas outside of engineering such as project planning and business management.

- Disruptive/transformative transportation technologies and services
- Highway design
- Intelligent transportation systems
- Road Safety and Human Factors
- Traffic operations/control/management
- Transportation planning
- Travel demand and behavior
- Transportation informatics

Additional Areas of Specialization:

Construction and Infrastructure Management

A burgeoning field for research and practise, construction and infrastructure management focus on the managerial aspects of issues arising during infrastructure planning, design, construction, operation and maintenance from a systematic viewpoint. As a construction and infrastructure management researcher, you will conduct multidisciplinary research across other areas of the department. By integrating systems thinking, project management skills, modelling and simulation, data analytics, risk and uncertainties, optimization, and decision-making theories, you will strive to provide holistic solutions for effective delivery and management of infrastructure systems.

As a graduate of this field of study, a world of employment opportunities awaits with a variety of leading Canadian and international engineering firms such as Ellis Don, PCL, and SNC Lavalin, as well as municipalities and government agencies, including the City of Toronto, Metrolinx, and Infrastructure Ontario. The project management skills you acquire can also be applied to all engineering areas and beyond.

- Competitive bidding
- Construction innovation
- Infrastructure asset management
- Public-private partnerships
- Risk, reliability and resilience
- System optimization

Geotechnical Engineering

Geotechnical engineering focuses directly on the engineering behaviour of earth materials. This discipline applies the knowledge of soil mechanics and rock mechanics to the design of foundations, tunnels, retaining walls, earth dams, etc.

As a graduate of this field of study, a world of employment opportunities awaits with a variety of leading Canadian and international engineering firms such as Keller Foundations Ltd, WSP, and Arup, as well as municipalities and government agencies, including the City of Toronto, Environment Canada, and the Ministry of Transportation. The skills you acquire can also be applied to areas outside of engineering such as real estate development and facilities management.

- Reliability design of geo-structures
- Ground improvement techniques
- Geotechnical characteristics of glacial deposits
- Design and risk mitigations of urban tunneling
- Use of industrial by-products in concrete and asphalt

FACILITIES

MONETARY TIMES BUILDING

The Monetary Times Building was purchased by Ryerson University in 1966 and underwent construction to become the Department of Civil Engineering. It was originally a printing house for the production of the **Canadian Monetary Times and Insurance Chronicle** founded in August 1867 by William A. Foster and Hugh Scott. This weekly newspaper in its early days included reports of stockholders' meetings, company reports, quotations of stocks and bonds, market and price reports, advertisements and editorials on business subjects. In 1870 its name changed to **The Monetary Times**. The Canadian financial newspaper **The Monetary Times** provided information on Canadian historical financial, political, social and biographical events in the late 19th and early 20th century.

COMPUTER LABS

General Information:

- Computer lab accounts are for labs located in EPH-230, EPH-230A, MON-207, MON-314 and in the Graduate Studies Offices of the Monetary Times Building only.
- The lab computers are accessed by all approved students for usage in each computer lab.
- Do NOT save your personal or school work to the local disk drives. Please save your files to a USB drive or to your network folders, instead. The lab computers can be imaged at any time and your data files could be erased at any time.
- Valid until 30 days after graduation and then all account information and data WILL BE erased.
- Printing for undergraduate students is as follows:
  - 1st Year, 200 pages per semester
  - 2nd Year, 200 pages per semester
  - 3rd Year, 300 pages per semester
  - 4th Year, 400 pages per semester
- Printing for graduate students is 600 pages per semester.
- Balance will be carried over to the following semester.
- Passwords will be changed each semester.

Lab Rules:

The civil engineering staff monitors the activity on any workstation in the civil domain. No food/beverages are permitted in the labs. Violation of this rule will result in the student being asked to leave the lab.

Please do NOT save your personal or school work to the local disk drives. Please save your files to a USB drive or to your network folders. The lab computers can be imaged at any time and your data files could be erased at any time.

The following actions may subject the student to penalties listed in the Academic Integrity Policy and/or the Student Code of Non-academic Conduct Policy (see reference to these Senate Policies in this Student Handbook):

1. Giving your account's name and password to someone else.
2. Attempting to hack into the server or the workstations.
3. Moving, tampering, or damaging the workstations.
4. Loading illegal software, data, or any other material onto the server or the workstations.
5. Taking data and software is theft. Anyone found downloading software, data, or any other material from the server or the workstations without proper authority.
6. Using the Civil Engineering Department computer facilities for tasks other than those assigned during a civil engineering program course.
7. Using the lab for word-processing, recreational computer games use, and web surfing except on assigned sites and topics, printing personal material, or executing non-civil engineering program work.
8. Failing to obey requests of faculty members, staff, or lab assistants on matters pertaining to lab operation.
9. Boisterous behavior, excessive noise, or using obscene/profane file names.
10. Using the WWW browsers for the purposes of surfing unauthorized sites, sending e-mail from the workstations, or attempting in any way to hack into websites on or off campus.

PHYSICAL LABS

The primary purpose of the physical labs is to offer educational and research activities; however, priority is given to instructional use. When the labs are not being used for instructional purposes, they are available for approved research use by students.

List of Physical Labs:

The following is a list of the physical labs and their locations in the Department of Civil Engineering:

Department of Civil Engineering Physical Labs	Location
Advanced Asphalt Concrete Testing Facility	ENG-LG22-B
Advanced Cement-Based Materials Lab	ENG-LG23-B
Advanced Sustainable Construction Materials Lab	ENG-LG-19
Civil Engineering National/International Student Competition Lab	MON-106A
Concrete Lab	ENG-LG-23
Digital Mapping Lab	MON-314 (East Side)
Environmental Lab	MON-412
Enzyme-Linked Immunosorbent Assay (ELISA) Lab	MON-104
Flushability Lab at Toronto Metropolitan Urban Water	CUI-007
Geology Engineering Lab	MON-102
Geo-Optical Research Lab	KHN-101B
Geotechnical Lab	KHN-101
GIS and Geo-Collaboration Lab	MON-304
Hydraulics and Hydrology Engineering Lab	MON-106
Laboratory of Innovations in Transportation (LiTrans)	CUI-330
Navigation and Mobile Sensing Lab	MON-314 (West Side)
Remote Sensing Innovation Lab (RSIL)	MON-314 (East Side)
Road Safety Research Lab	MON-404
Toronto Metropolitan Institute for Infrastructure Innovation (RIII)	CUI-330
Sicoma Concrete Mixing Lab	ENG-115
Water Resource Recovery Research Lab	CUI-408
Strength of Materials Lab	MON-414
Structures Lab	ENG-LG-26
Toronto and Area Road Builders Association Highway Materials Lab	ENG-LG-22

Access to Labs, Lab Hours and Availability:

If you are working with a faculty member / supervisor on research and/or other work that requires access to any physical labs of the Department of Civil Engineering, please follow the procedures listed below:

First and foremost is to discuss with your Professor and/or Supervisor the work/project/research for what are the access needs required. Then, refer to safety needs by visiting:
https://www.TorontoMU.ca/facilities-management-development/environmental-health-safety/

2. Professor and/or Supervisor shall complete the suitable Risk Assessment form:
https://www.torontomu.ca/facilities-management-development/environmental-health-safety/risk-assessments/
Risk Assessment(s) shall also include a list of labs required and/or facilities along with an anticipated lab access expiration date; start date; name of workers.

3. Researchers/Students/Workers shall complete e-training on-line quizzes required in Step 3A. Upon successful completion an electronic certificate will be awarded. For instructions to access this e-training refer to: D2L eLearning Instructions

3A It is **MANDATORY** to successfully complete the following Toronto Metropolitan University Orientation Quizzes found at: https://www.torontomu.ca/facilities-management-development/environmental-health-safety/mandatory-safety-training/

I. *Workplace Hazardous Materials Information System* (WHMIS) AND,
II. *Environmental Health and Safety e-Learning* (EHS) AND,
III. *Chemical Safety* (see "Lab-Specific Training" on same web page)

4. Upon receipt of the electronic copies of the safety certificates they shall be forwarded electronically and/or printed to your Professor and/or Supervisor.

IMPORTANT: The above mandatory certificates in steps 3 and 3A are minimum requirement(s). Your Professor/Supervisor shall require further training requirements based on the Research or work anticipated to be performed or as indicated on the Risk Assessment.
Further Reference: All Health and Safety information & trainings can be found in Environmental Health and Safety section under Toronto Metropolitan University's Facilities Management and Development (FMD) website: https://www.TorontoMU.ca/facilities-management-development/environmental-health-safety/mandatory-safety-training/environmental-health-safety-elearning/

5. Once the Professor / Supervisor has received the forwarded safety certificates as per items #3, 3A, they shall both sign and forward as well the Risk Assessment to Dan. Peneff, the Department Safety Officer (DSO) who shall complete an overview of completion.

6. The DSO shall forward to the Department Chair items in #5 for final authorization. Upon the Chairs' signature, the DSO shall process information into Civil LabAccess shared google drive AND shall request said access by notifying the Administrative Assistant for undergraduate students and Post Doc/Visiting Scholars; to the Graduate Administrator for graduate student(s).

Health and Safety Rules:

In Ontario, we are governed by The Occupational Health and Safety Act of Ontario for Industrial Establishments. Each individual within the Toronto Metropolitan University community shares responsibility for the identification of environmental health and safety hazards and managing the related risks.

Along with the following rules, all of us are obliged to conduct ourselves in accordance to the Toronto Metropolitan University's Environmental Health and Safety Policies, Programs and Guidelines and these can be found at the Toronto Metropolitan University website: www.torontomu.ca/ehs/

Please refer to The Department of Civil Engineering's Health and Safety Manual for further information.

Here are some general rules that every lab user **MUST** observe and follow:

(a) Eye Wear

Safety glasses with side shields must be worn at all times in designated areas. Contact lenses should never be worn in areas where chemicals or solvents are used.

(b) Protective Equipment

Some lab processes require students and researchers to dispense and/or manipulate a multiplicity of concentrated hazardous chemicals. Several of these chemicals display highly corrosive characteristics with the potential to destroy skin tissues. All needed equipment will be provided, except footwear which is to be purchased by the students due to its personal nature. Some labs require hard-hats for head protection.

(c) Protective Clothing

All lab personnel and students involved with hazardous chemicals in a teaching or research lab must do at least the minimum of:

- Wear closed-toe shoes at all times in areas where hazardous chemicals are stored or used. Perforated shoes, sandals or flip-flops must not be worn.
- Wear splash goggles or face shields that have splash proof sides when protection from harmful chemical splash is required.
- Wear appropriate protective gloves whenever the potential for contact with corrosive or toxic materials or materials of unknown toxicity exists.
- Wear pants, full coverage lab coats, or aprons. Scanty (e.g. shorts, mini-skirts, tank tops and/or halter tops) or torn clothing and unrestrained long hair is not allowed.

(d) Housekeeping

Work areas, aisles and passageways must be kept clean and free from obstructions that could create a hazard. Lab floors must be maintained, as much as practicable, in a dry condition. Where emergency wet processes may be required (e.g. emergency showers), drainage must be provided and maintained and false floors, platforms, mats and other dry standing places must be provided. Where practicable or appropriate, waterproof foot gear must be provided. All solid or liquid wastes, glass or metal chemical containers, and excessive combustible materials must be removed in such a manner as to avoid creating a menace to safety and health, and as often as necessary or appropriate to maintain the place of employment in a sanitary condition.

(e) Labeling

Be certain all chemicals are correctly and clearly labeled according to WHMIS. Post warning signs when unusual hazards, such as radiation, flammable materials, biological hazards, or other special problems exist. Note that MSDS (Material Safety Data Sheet) is available for each chemical in each lab.

(f) Spills

Spilled materials must be cleaned promptly and completely with paper towels, rags, or absorbent. Promptly dispose of oily or solvent-saturated clean-up materials in a safety container. If a chemical, radiological or

biohazard spill threatens the safety and/or health of faculty, staff or student, call 911 to report an emergency involving hazardous materials.

(g) Sharp Objects

Safe lab practice requires that sharp objects be protected to avoid accidental injection into the skin. All sharp objects are collected in a labeled, rigid puncture proof container and disposed according to type and use. Chemical contaminated glassware must be triple rinsed and the label defaced prior to placement in the broken glass receptacle.

(h) Equipment Use

Use equipment only for its designed purpose. The use of makeshift tools and shortcut methods leads to equipment damage and injuries. If you are in doubt, seek the help of the Departmental Technician or your Faculty Supervisor. Report broken or unusable equipment to the designated Departmental Technician responsible for his respective lab. Lab personnel are prohibited from running equipment unless proper safety precautions have been taken.

(i) Prudent Lab Practices

It is prudent to avoid working in a laboratory alone. During business hours, and under normal working conditions, a student must make arrangements with another individual to cross check periodically. Experiments known to be hazardous must not be undertaken by a worker who is alone in a laboratory. After business hours, a student cannot work in a lab alone and a buddy system must be adopted.

(j) General Lab Safety

Be alert to unsafe conditions and actions and correct them immediately. If major maintenance or repairs are needed, call attention to them so corrections can be made as soon as possible. Someone else's accident can be as dangerous to you as though you had the accident. Avoid distracting or startling any other worker. Practical jokes or horseplay are not tolerated. Persons with medical alert bracelets should inform the lab technicians so that special arrangements can be made.

(k) Chemical Storage

All chemicals must be organized and stored on shelves or in cabinets where they will not be knocked over. Chemical storage cabinets are available in each lab.

(l) Food & Drink in Research and Lab Areas

Consumption or storage of food or beverages, application of cosmetics or smoking is not permitted in labs, research or workrooms where chemicals are used or stored. Contamination of food, drink, smoking materials and cosmetics is a potential route for exposure to toxic substances. No alcoholic beverages or illegal drugs will be tolerated.

(m) Lab Security Policy

- Report any suspicious activity to Campus Security, (416) 979-5040.
- All labs must be locked when not in use; it is highly recommended to lock and secure all doors at all times
- Avoid providing building access to unauthorized individuals.
- Secure doors behind you.
- See Toronto Metropolitan Environmental Health and Safety website www.torontomu.ca/ehs

FACTS FROM A - Z

A ABBREVIATIONS

AAS: Academic Accommodation Support
ACI: American Concrete Institute
AOLS: Association of Ontario Land Surveyors
CEAB: Canadian Engineering Accreditation Board
CGPA: Cumulative Grade Point Average
CSCE: Canadian Society for Civil Engineering
GPA: Grade Point Average
FEAS: Faculty of Engineering and Architectural Science
FS: Failure Supplementary
ISS: International Student Support
ITE: Institute of Transportation Engineers
LL: Lower Level Liberal Studies
LSS: Learning Success Seminars
MON: Monetary Times Building
MSDS: Material Safety Data Sheet
OLS: Ontario Land Surveyor
OSAP: Ontario Student Assistance Program
PEng: Professional Engineer
PEO: Professional Engineers Ontario
RAC: Recreation and Athletics
SLS: Student Learning Support
TGPA: Term Grade Point Average
TMSU: Toronto Metropolitan Students Union
UL: Upper Level Liberal Studies

ACADEMIC ACCOMODATION OF STUDENTS WITH DISABILITIES

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code. This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University's courses and programs. Senate Policy 159 reflects the *shared* responsibility of students with disabilities, instructors, Departments/Schools, Faculties, Academic Accommodation Support (AAS) and administrative staff to exercise flexibility and creativity in the provision of academic accommodations.

The University is committed to the fostering of an inclusive climate of equitable access, understanding and mutual respect which recognizes the dignity and worth of all persons, provides equal rights and opportunities without discrimination, and protects the privacy, confidentiality, comfort, autonomy and self-esteem of students with disabilities.

This policy applies to academic accommodations involving undergraduate and graduate students in full-time and part-time programs, certificates, and continuing education courses.
For further information, please see Senate Policy 159 – Academic Accommodation of Students With Disabilities at website:
https://www.torontomu.ca/senate/policies/academic-accommodation-of-students-with-disabilities-policy-159/

ACADEMIC ACCOMMODATION SUPPORT (AAS)

Academic accommodation support staff - facilitators, specialists, and administrators offer support with academic accommodation and related academic supports and the processes involved with these. Students eligible for Academic Accommodation Support have singular and multiple disabilities, such as learning disabilities, sensory impairments, acquired brain injuries, ADHD, and mental health, medical, and mobility issues. Students seeking accommodation can contact the Academic Accommodation Support main office to register and submit health documentation. Active students can view their accommodation letters and send them electronically to professors, and submit test or exam booking requests online.

Before the first graded work is due, students registered with the Academic Accommodation Support office (AAS) should provide their instructors with an Academic Accommodation letter that describes their academic accommodation plan.

- Develop your Academic Accommodation Plan
- Get guidance on the use of adaptive technologies
- Connect with RU-Noted – the student note-taking program
- Apply for the Bursary for Students with Disability
- Learning Specialist consultations

Academic Accommodation Support is currently providing remote support for students.

Web site: http://www.torontomu.ca/studentlearningsupport/academic-accommodation-support/

ACADEMIC ADVISEMENT REPORT

The Academic Advisement Report is a tool for Undergraduate degree students that shows all the courses that you have taken or are enrolled in as well as those courses needed for you to take to graduate.

You can use the Advisement Report to:

- check the accuracy of your academic record, including approved transfer credits and course substitutions or directives
- assist you during the Course Intention and course enrolment process to determine outstanding requirements
- ensure that your course selections fulfill your requirements
- see extra courses completed that are not being applied to meeting degree requirements.

As you work your way towards graduation, this report reflects your progress and gives details of the courses you still need to take in order to graduate.

The Advisement Report is unofficial, may contain inaccuracies and is subject to change. It does not represent an irrevocable contract between the student and the university.

If you are enrolled in your final course, semester or year of study and are planning on graduating, you must submit an Application to Graduate by the deadline date published in 'Significant Dates' in the Undergraduate Calendar.

The Advisement Report is only a tool to aid you in selecting courses appropriate to your program. You are ultimately responsible for ensuring that you have met all university requirements for graduation as set out in the official Toronto Metropolitan University Undergraduate calendar. If you have any problems understanding your Advisement Report or have questions or concerns about fulfilling these requirements or about any limits, restrictions and variations applicable to your program, please contact the Civil Engineering Department civil@torontomu.ca

ACADEMIC CONSIDERATION REQUESTS

You can submit an Academic Consideration Request when an extenuating circumstance has occurred that has significantly impacted your ability to fulfill an academic requirement. If you miss an exam or other academic obligation, please email your professor as soon as possible. Please visit the Senate website and select the blue radial button on the top right-hand side entitled: Academic Consideration Request (ACR) to submit your request).
www.torontomu.ca/senate/resources
All academic consideration requests must be submitted within three working days of the missed exam or other course work unless you have documented extenuating circumstances.

The Academic Consideration does allow for a once per term academic consideration request without supporting documentation if the absence is less than 3 days in duration and is not for a final exam/final assessment. For more information, please see Senate Policy 167: Academic Consideration.

Upon verification of your request and documentation, your professors will be informed. It is your responsibility to contact your professor(s) to make arrangements for your make up exam or the submission of other course work. Please refer to the course outline for each of your courses.

ACADEMIC INTEGRITY

Intellectual freedom and honesty are essential to the sharing and development of knowledge. In order to demonstrate Toronto Metropolitan University's adherence to these fundamental values, all members of the Toronto Metropolitan University community must exhibit integrity in their teaching, learning, research, evaluation and personal behaviour. As a member of the Toronto Metropolitan University community and as a future engineer, it is your responsibility to understand and adhere to Toronto Metropolitan University's Academic Integrity policy.

The Toronto Metropolitan University Policy of Academic Integrity, Policy 60, clearly defines academic misconduct, the processes the University will follow when academic misconduct is suspected, and the consequences that can be imposed if students are found to be guilty of misconduct. It is every student's responsibility to know about Academic Integrity and to always do the right thing. Students who have any concerns about academic integrity should discuss them with the Academic Integrity Officer (AIO) and/or the appropriate instructor if applicable.

Toronto Metropolitan University's Policy 60 (the Academic Integrity policy) applies to all students at the University. Forms of academic misconduct include but are not limited to: plagiarism, cheating, misrepresentation of personal identity or performance, submission of false information, contributing to misconduct, damaging, tampering, interfering with the scholarly environment, unauthorized use of intellectual property, misconduct in re-graded/re-submitted work, and violations of specific departmental or course requirements. The most common form of academic misconduct is plagiarism – a serious academic offence, with potentially severe penalties and other consequences. It is expected, therefore, that all examinations and work submitted for evaluation and course credit will be the product of each student's individual effort (or an authorized group of students).

Submitting the same work for credit to more than one course, without instructor approval, can also be considered a form of plagiarism.

The unauthorized use of intellectual property of others, including your professor, for distribution, sale, or profit is expressly prohibited, in accordance with Policy 60 (Sections 2.8, 2.10) https://www.torontomu.ca/senate/policies/academic-integrity-policy-60/. Intellectual property includes, but is not limited to:

- Slides
- Lecture notes
- Presentation materials used in and outside of class
- Lab manuals
- Course packs
- Exams

Students are advised that suspicions of academic misconduct may be referred to the Academic Integrity Office (AIO). Students who are found to have committed academic misconduct will have a Disciplinary Notation (DN) placed on their academic record (not on their transcript) and will normally be assigned one or more of the following penalties:

- A grade reduction for the work, include a grade of zero for the work.
- Where the component of academic work is worth 10% or less of the final course grade, an additional penalty (i.e. in addition to a grade of "zero" (0) on the work) may be assigned. The additional penalty cannot exceed 10% of the final course grade. Students must be given prior notice that such a penalty will be assigned (e.g. on the course outline, on the assignment handout, etc.).
- An F in the course
- More serious penalties up to and including expulsion from the University, please refer to Academic Integrity Policy.

For more detailed information on these issues, please refer to the full online text for the *Academic Integrity policy* and to the Academic Integrity website.

Important Resources Available at Toronto Metropolitan University
Use the services of the University when you are having problems writing, editing or researching papers, or when you need help with course material:

The Library (LIB 2nd floor) provides research workshops and individual assistance.
Inquire at the Reference Desk or at www.torontomu.ca /library/info/workshops.html

Student Learning Support offers group-based and individual help with writing, math, study skills and transition support, and other issues.
http://www.torontomu.ca /studentlearningsupport/

Appeals Process
Please refer to Senate Policy # 60 for details on Academic Integrity Appeals process.

ACADEMIC STANDINGS

In undergraduate degree programs, each student's Academic Standing will be established from the student's formal course grades at the end of each academic term on the basis of the following categories and criteria for overall academic performance:

CLEAR - a cumulative grade point average (CGPA) of at least 1.67 (except where the student has violated an approved Departmental Standing Variation or the terms of their Probationary Contract). Engineering students also need to have a term grade point average (TGPA) of 1.33 or higher, based on at least two reported grades for that term (not including Pass, DEF, INP or AEG grades). Students who have a TGPA less than 1.33 will be given PROBATIONARY Academic Standing

Students with CLEAR Standing may continue their program studies with no restrictions except for the obligation to satisfy prerequisite requirements.

PROBATIONARY - Engineering students who have a term grade point average (TGPA) less than 1.33, based on at least two reported grades for that term (not including Pass, DEF, INP or AEG grades). Students who have a TGPA less than 1.33 will be given PROBATIONARY Academic Standing

Students with Probationary standing are required to have a developmental Probationary Contract outlining a specific plan for studies and academic supports authorized by their Program Department, and signed by the student. Students who fail to have such a Probationary Contract by the last day to add courses for the specified term will have their course registrations and course intention requests cancelled for the term in question.

Students with a Probationary standing at the start of any semester will be eligible to continue their studies in a subsequent semester as long as they achieve a term grade point average (TGPA) of 1.67 or higher and provided they meet the terms of their Probationary Contract and do not violate approved Department/School standing variations. Failure to meet the terms of the Probationary Contract as set out by the School or Department will result in the student being RTW from their Toronto Metropolitan University program.

Except for students who follow the Student Success Program outlined below, who may attain a Clear standing, students who are reinstated to their program after an RTW standing return on Probation. Some programs may reinstate students with a probationary contract which may significantly restrict course load and require successful completion of specific program course. Programs may also specify grades which must be achieved.

ACADEMIC STANDING VARIATION

In addition to the general criteria used to determine Academic Standing, students in the Civil Engineering program must also meet the following conditions:

All students in undergraduate Engineering programs have an additional condition for Clear academic standing. In addition to students needing a cumulative grade point average (CGPA) of 1.67 or higher, students also need to have a term grade point average (TGPA) of 1.33 or higher, based on at least two reported grades for that term (not including Pass, DEF, INP or AEG grades). Students who have a TGPA less than 1.33 will be given PROBATIONARY Academic Standing. Students with only one reported grade for that term will be evaluated based on CGPA only.

Students with a CGPA less than 1.67 will be assigned a Probationary or Required to Withdraw (RTW) standing.

REQUIRED TO WITHDRAW - Students will be REQUIRED TO WITHDRAW from their program for one of the following reasons:

i. A CGPA of less than 1.00 (except students enrolled in their first semester); **or**

ii. A term GPA below 1.67 while on probation; **or**

iii. Violation of any approved Department/School Standing variation; **or**

iv. Violation of a PROBATIONARY Contract (including unauthorized changes to the contract or failure to negotiate a Probationary Contract).

No student in their first semester at Toronto Metropolitan University will be REQUIRED TO WITHDRAW (RTW) in December. Students with a GPA of less than 1.00 in their first semester will be advised about their prospects for success. Such students who continue in their program for the subsequent Winter semester will do so on PROBATION.

Schools/Departments, at their discretion, may issue a special contract in cases where the program judges the student to have a realistic chance of achieving a CLEAR Standing in the semester following assignment of RTW by taking up to two (2) courses. Students remain RTW during this semester. If the student fails to achieve a CGPA of 1.67 at the end of that semester, s/he will remain RTW. If the student is successful, s/he will return as CLEAR.

Students who have been denied reinstatement twice may not reapply for reinstatement into that program.

Procedures for RTW students who wish to be considered for reinstatement to their program. Please refer to Senate Policy #46: Undergraduate Grading, Promotion, and Academic Standing:

Student Success Program http://www.torontomu.ca /content/dam/senate/policies/pol46.pdfhttp://

www. torontomu.ca/content/dam/senate/policies/pol46.pdf

PERMANENT PROGRAM WITHDRAWAL - Students will be permanently withdrawn from their program for the following reasons:

i. Any academic performance that would result in 'REQUIRED TO WITHDRAW' Standing for a second time; **or**

ii. Failure of a course required by their program for a third time; **or**

iii.Failure to meet the terms of a Probationary Contract following return after a REQUIRED TO WITHDRAW Standing

Students who are permanently withdrawn from a program may not apply for reinstatement into that program. Students who are Permanently Withdrawn from a program may apply to a different program for the Fall semester of the following calendar year.

DISCIPLINARY SUSPENSION - An academic standing where a student is removed from a program for a specified period of 1 (one) term to 2 (two) years, after which the student will be

automatically reinstated. A DS will be placed on both the academic record and official transcript, but will be removed from the official transcript upon graduation.

DISCIPLINARY WITHDRAWAL - An academic standing where a student is permanently withdrawn from a specific program and fully withdrawn from the University as a whole for a period of at least 2 (two) years. After serving the specified period, a student assigned a DW may apply to other programs/certificates at the University. A DW will be placed on both the student's academic record and official transcript and cannot be removed.

EXPULSION - An academic standing involving permanent removal of a student from the University. Students who are expelled from the University shall not be allowed to register or enroll in any class or program of the University. Expulsion shall be permanently noted on a student's academic record and official transcript.

APPEALS

The Appeals policy (Senate Policy #168) is available in its entirety at www.torontomu.ca /senate and www.torontomu.ca /essr/appeals

Toronto Metropolitan University is committed to promoting academic success and to ensuring that students' academic records ultimately reflect their academic abilities and accomplishments. The University expects that academic judgments by its faculty will be fair, consistent and objective, and recognizes the need to grant academic consideration, where appropriate, in order to support students who face personal difficulties or events. **It is also expected that students will deal with issues which may affect academic performance as soon as they arise. It should be understood that students can only receive grades which reflect their knowledge of the course material.**

Students should refer to www.torontomu.ca/senate/appeals/ for detailed information on the various academic considerations that may be requested; as well as necessary documents such as the appeals portal, health certificates and forms for religious accommodation; and procedural instructions. Information is also available from the Departments, Dean's Offices and the Senate.

It is the student's responsibility to notify and consult with either the instructor, or the Chair/Director of the teaching or program department/school, depending on the situation, as soon as circumstances arise that are likely to affect academic performance. It is also the student's responsibility to attempt to resolve all course-related issues with the instructor as soon as they arise, and then, if necessary, with the Chair/Director of the teaching Department/School. Failure to do so may jeopardize the success of an appeal made at a later date. It is the instructor's responsibility to respond in a timely fashion when students raise grading or management issues.

Students are responsible for reviewing all pertinent information prior to the submission of a formal academic appeal. Incomplete appeals will not be accepted. Students are responsible for ensuring that a formal appeal is submitted by the deadline dates published in the Undergraduate Calendar, and must adhere to the timelines established in the policy. The deadline for appealing a grade or academic standing after the term has ended is clearly noted in the Toronto Metropolitan University Calendar. Appeal submissions must be completed in accordance with the instructions on the Senate website (https://www.torontomu.ca/senate/appeals/). The Undergraduate Studies Associate Chair of the Department of Civil Engineering will adjudicate the appeal and respond to the student by e-mail within ten working days of the submission of the appeal whether the appeal was granted or denied. Students are responsible for contacting the Department/School if they have not received a response in the specified time period.

There are *two types of Departmental Level appeals* that may be filed:

(1) Grade Appeal - must be submitted to the Department/School in which course is taught

(2) Standing Appeal - must be submitted to the student's program department

Grounds for Appeal

Students may only appeal a final grade or academic standing if one or more grounds for appeal exist. The four (4) grounds for appeal are: Course Management; Extenuating Circumstances; Procedural Error; and Prejudice (see Senate for further details).

All Engineering students submitting academic appeals MUST submit their appeals through the Toronto Metropolitan University Senate portal. The portal is available at this link on the right side of the webpage: https://www.torontomu.ca/senate/

AWARDS & SCHOLARSHIPS

Awards and scholarships are awarded annually to students. The majority of awards and scholarships are designated by the Departmental Awards Committee and determined according to academic excellence and other criteria. Details about awards and scholarships can be found at the following websites: www.torontomu.ca/currentstudents/financialaid and Civil Engineering website www.torontomu.ca/civil and www.torontomu.ca/registrar/students/scholarships

C

CALENDAR

The Undergraduate Calendar (www.torontomu.ca/calendar) is your official source for curriculum and course information at Toronto Metropolitan University. It is the official statement of new and revised programs and courses approved by the Senate of Toronto Metropolitan University.

CANADIAN SOCIETY FOR CIVIL ENGINEERING – (CSCE)

The Canadian Society for Civil Engineering is a learned society intended to develop and maintain high standards of civil engineering practice in Canada and to enhance the public image of the civil engineering profession. The Society has local sections across Canada and its mission is to promote the development, acquisition and exchange of professional knowledge in the field of Civil Engineering. Supportive of the work of academics and private institutions and different organizations that deal with Civil Engineering since 1887 and working with sister organizations, the CSCE also promotes Civil Engineering among the general public and governmental institutions in Canada and abroad. Student Chapters offer undergraduate technical programs, often in conjunction with local CSCE Sections, opportunities to meet with practicing Civil Engineers in the community (www.csce.ca)

To obtain your CSCE Student Membership, please visit www.csce.ca and follow the Student Membership link to fill in the Student Membership application form.

CAREER BOOST

Career Boost is Toronto Metropolitan University's source for off campus and on campus job opportunities.

The On Campus Program is Toronto Metropolitan University's newly re-branded Work Study program, and provides undergraduate students with hundreds of on-campus paid work experience opportunities each year.

CAREER DEVELOPMENT AND EMPLOYMENT CENTRE

The Career Development and Employment Centre at Toronto Metropolitan University offers employment and career-related services including job-search skills workshops, job postings, a career resource Library, computer access to campus Work Link, and individual counselling. The Career Centre is open year-round to Toronto Metropolitan University students. Please visit www.torontomu.ca/career

CIVIL ENGINEERING COURSE UNION

The Toronto Metropolitan University Civil Engineering Course Union is the representative student chapter for Civil Engineering students at Toronto Metropolitan University. It is a student-run organization that provides peer support, builds connections to industry, plans social and extra-curricular engineering competition events and other special projects. The Society also offers many academic and extra-curricular activities throughout the year. The Civil Engineering Course Union Office is located in MON-101. The contact information is ryecivil@torontomu.ca, phone (416) 979-5000, ext. 556454.

CODES OF CONDUCT

Information on Academic Integrity can be found at the following website:
www.torontomu.ca/academicintegrity and in this Handbook in the Academic Integrity section.

Student Code of Non-Academic Conduct: Senate Policy #61

The purpose of the Student Code of Non-Academic Conduct ("Code") is to establish community standards of non-academic conduct for Toronto Metropolitan University ("the University"). The Code educates the University's students by providing a nonexhaustive list of the rights, expectations, and responsibilities related to non-academic student conduct. The Code provides a Complaint resolution process that is fair. The Code identifies sanctions that may be assigned which are proportionate to conduct that does not meet community standards; conduct that jeopardizes the proper and orderly functioning of academic and non-academic programs, activities, or operations of the University; conduct that endangers the health, safety, rights, or property of the members of its community, or conduct that adversely affects the property of the University or entities related to the University. The Code provides for and outlines the support available to University community members impacted by conduct that does not meet community standards.

COMPLAINTS

The Department of Civil Engineering is committed to assuring students that their complaints are heard.

When you have questions or encounter difficulties or problems, please bring it to the attention of the faculty or staff member involved at Toronto Metropolitan University. It is essential that you deal with situations that affect your academic performance as early as possible, as unresolved problems can generally get worse over time.

Students should first talk about courses or any other academic-related concerns they have with their instructors. If they do not feel comfortable doing this or cannot resolve their concerns this way, they should consult with the Undergraduate Program Associate Chair followed by the Chair of the Department.

Any Toronto Metropolitan University student, faculty or staff may file a complaint of non-academic misconduct with the Student Conduct Officer. Complaints must be submitted within 20 working days of the incident in question. Steps for filing a complaint:

https://www.torontomu.ca/student-care/students/student-code-of-conduct/file-complaint/

Other Resources on Campus where you can get advice on conduct issues:

https://www.torontomu.ca/student-care/students/advice-on-campus/

Toronto Metropolitan Students Union
Location: Student Campus Centre, SCC311
Ph: (416) 979-5255 Ext. 552322
Email: advocacy@torontomu.ca

Office of the Ombudsperson
Location: Oakham House, Second Floor
Ph: (416) 979-5000 Ext. 557450
Email: ombuds@torontomu.ca

For Discrimination and Harassment Issues:
Human Rights Services
Location: Podium Building, POD 254-A
Ph: (416) 979-5349
Email: humanrights@torontomu.ca

CO-OPERATIVE INTERNSHIP PROGRAM

OPTIONAL CO-OPERATIVE INTERNSHIP PROGRAM

For students admitted before Fall 2020

Third year students with CLEAR Academic Standing may opt to enrol in the Optional Co-operative Internship Program. If they are selected by one of the partner corporations, they spend a period of 8-16 months, from May to September of the following year, as engineering interns at the corresponding corporations. After the completion of the Co-operative Internship, students return to the academic program to complete their final year of studies. Enrolment in the Co-operative Internship extends the program length to five years.

Co-operative Internship students will be enrolled by the Department in the courses WKT121, WKT221, WKT321, WKT421 Co-operative Internship Program during the academic year in which they work as interns. This course is graded on a pass/fail basis. Completion of the Co-operative Internship will be identified on the student's transcript.

Co-operative Program

For students admitted Fall 2020 and after

After completing the first three years of the regular curriculum, a student in the Civil Engineering Program with CLEAR academic standing has options of continuing with the regular program or enrolling in the Civil Engineering Co-operative program after obtaining a 12 to 16-month Co-op job offer. After completing their co-operative job placement, a student in the Civil Engineering Co-operative program will return to the program to complete their degree requirements. The length of the Civil Engineering Co-operative Program is five years.

Optional Internship Program

For students admitted Fall 2020 and after

After completing the first three years of the regular curriculum, students in the Civil Engineering Program with CLEAR Academic Standing may be eligible to enrol in the Optional Internship Program. If they are selected by one of the partner corporations, they spend a period of 8 months as engineering interns at the corresponding corporations. After the completion of the Internship, students return to the academic program to complete their final year of studies. Enrolment in the Internship Program extends the program length to five years.

COUNSELLING CENTRE

The Student Development and Counselling Centre offers free and confidential counselling services in a professional and friendly environment. While their services are predominantly short term in nature, the duration of counselling is determined on a case by case basis depending on need and resources availability. Services are provided by a team of psychologists, counsellors, and master's and doctoral interns. Professional counsellors provide individual counseling and/or group sessions to help you make satisfying career and educational choices (416) 979-5195, www.healthandwellness/counselling// or email csdc@torontomu.ca

The Centre's services, programs and resources are intended to assist students not only to solve immediate problems, but also to define their personal, educational and career goals, and to acquire the self-confidence and transferable skills necessary for professional success and individual growth. They provide these services on a one-to-one basis or in a group format.

All Toronto Metropolitan University students can access 24/7 mobile counselling or crisis support with Keep.meSAFE using the My SSP app. The My SSP app is available on the Apple Store, external link or Google Play, external link. Keep.meSAFE can also be accessed with a phone call by dialing 1-844-451-9700.

If you wish to speak to a physician for mental health support, during business hours, please contact the Toronto Metropolitan Medical Centre at 416-979-5070 or email medicalct@torontomu.ca

If you need emergency medical or mental health response, please dial 911 or go to your local hospital.

If you require assistance for an urgent concern outside of Toronto Metropolitan University Counselling Centre's regular operating hours (Monday to Friday, 9 am to 5 pm) call Toronto Metropolitan Security & Emergency Services: 416-979-5040; dial 911 or go to the emergency department of your closest hospital. If you are on or nearby campus, St. Michael's Hospital is located at 30 Bond Street (the emergency department is at the intersection of Victoria Street and Shuter Streets).

Alternatively, you may wish to call one of the following local crisis lines:

Dial 911 or the nearest emergency room of your local hospital; Toronto Metropolitan University Security & Emergency Services: 416-979-5040; Good2Talk, a 24-hour confidential telephone support line for post-secondary students at 1-866-925-5454. Distress Centre of Toronto: 416-408-HELP (4357); The Gerstein Centre Crisis Line 416-929-5200; Toronto Metropolitan University Safe House 416-979-5195.

COURSE INTENTIONS

Course Intentions is the process where returning students indicate the courses they wish to take in the next academic year.

The Course Intention process occurs in early March via MyServiceHub

When participating in the Course Intention process, students must ensure that they complete the transaction in their Shopping Cart (by selecting "Finish Enrolling"). Course Intention selections added to a student's Shopping Cart but not completed will not be recorded and therefore will not be taken into consideration when preparing a student's schedule.

Students will not be allowed to enrol in courses unless they have passed the prerequisite courses. Other program-specific restrictions may also apply. Students with outstanding fees from previous terms will be prohibited from further enrolment, until satisfactory payment arrangements have been made.

COURSE MANAGEMENT OVERVIEW

Students will be provided at the beginning of every course with an outline or syllabus that includes, as a minimum, information on the following items:

- Name and number of course; semester and year, prerequisites, and exclusions, if any.
- Faculty member's name; office location and scheduled student consultation hours; office telephone number; e-mail address; faculty/course web site(s) if available.
- A synopsis that informs students of the course's academic focus and scope, course objectives and/or intended learning outcomes, and topics with their tentative sequence and schedule.
- Texts, reading lists, and other course materials or equipment.
- A description of the teaching method(s) that will be used (e.g., lecture, lab, studio, cases, problem-based learning, seminar, fieldwork, in-class debates, oral presentations or combinations of these) and schedule of any field trips or required activities outside of class time.

- Assignment due dates, to whom the assignments should be delivered, mid-term exam dates and paper return dates.

Evaluation – A list and tentative schedule of all assignments, tests, exams, and other work to be graded, and general descriptions of these. (More specific information on each assessment will be provided by the course instructor as early in the semester as possible.) The weighting of each assignment, test, and/or other unit of evaluation. The inclusion of snap tests or other unscheduled evaluations as part of the grading scheme, if applicable. Policies on deadlines for the acceptance of assignments and/or take-home examinations, and on any penalties that will be assessed when such deadlines are not met.

Toronto Metropolitan University has developed an **academic integrity website link http://www.torontomu.ca/academicintegrity/** for students that contains valuable information along with tutorials and quizzes to help you learn about various types of misconduct, how to avoid misconduct and resources available to assist you. See www.torontomu.ca/academicintegrity. As a Toronto Metropolitan student, you are responsible for familiarizing yourself with the Academic Integrity Policy found at www.torontomu.ca/senate/policies/pol60.pdf

Accommodation of Students with Disabilities – The Academic Accommodation Support Centre supports students by arranging accommodations for academic study. All members of the Toronto Metropolitan University community play an important role in providing accommodations that maximize the participation and independence of students with disabilities. (Senate Policy # 159) To register for please contact the Civil Engineering Department and/or the Academic Accommodation Support located on the 4th floor of the new Student Learning Centre, 341 Yonge Street. Tel: 416.979.5290 Fax: 416.979.5094 Email: aasadmin@torontomu.ca

- Student Email Policy - Students are required to activate and maintain their Toronto Metropolitan University E-mail address as their official communication with Toronto Metropolitan University. (Senate Policy # 157).

- Non-Academic Conduct **-** The Toronto Metropolitan University Student Code of Non-Academic Conduct reflects an expectation that students conduct themselves in a manner consistent with the educational objectives of the University, in accordance with generally accepted standards of behaviour, and in accordance with published university regulations and policies. (Senate Policy # 61)

- For more information about Course Management Policy, please see Senate Policy # 145 online at www.torontomu.ca/senate/policies

Guidelines for Undergraduate Course Management and Delivery

Approved by the Civil Engineering Departmental Council Meeting on April 8th, 2022.

1) **Exams -** With the exception of the capstone project courses, each course must have a final exam and it is recommended to have one midterm exam or multiple quizzes, or both.

2) **Exam Invigilation** – In addition to the instructor, or the designated department faculty member as a substitute for emergency reasons, no invigilation to any test is allowed other than graduate students hired by the department.

3) **Lecture Cancellation -** When an instructor has to cancel a lecture, they must first discuss the makeup solutions with the class, and report the agreed solution to the Associate Chair, and Administrative Assistant for scheduling assistance, if needed. No course component is to be delivered by anyone other than the instructor or the designated department faculty member as a substitute for emergency reasons (i.e. no undergraduate and graduate students, postdoctoral fellow, etc.), other than guest lectures reported to the Associate Chair.

4) **Tutorial and Lab Cancellation** - Tutorials and labs generally start in the second week of a semester. No cancellation of tutorials or labs scheduled inside buildings is allowed at any time including the week of the midterm test and the last week. Any changes in the location of tutorials or labs must be reported to the Associate Chair.

5) **Guest Lectures** - With the exception of Capstone Project courses, each course should not exceed 3 hours of guest lectures in general. Whenever possible, planned guest lectures should be included in the course outline. Instructors must report the date, duration and topics of unplanned guest lectures to the Associate Chair, Undergraduate Studies. As a recommended best practice, no guest lectures should be delivered without the presence of the course instructor or another faculty member.

6) **Grading Scheme** – There shall be no stipulation to pass the course other than adding marks per the marking scheme (e.g., pass the midterm to pass the course, pass the lab mark to pass the course, pass the final exam to pass the course).

7) **Group Projects** - With the exception of Capstone Project courses, the total mark for group projects and presentations should not be worth more than 40% of the total mark unless approved by the Department Council. In no case shall the total mark for group projects be worth more than 65%.

8) **Course Outline Review and Revisions -** All course outlines must be reviewed by the Administrative Assistant for the compliance with the university course outline template, and by the Associate Chair, Undergraduate Studies for the compliance with Senate Policy 166 (Course Management) and departmental policies. The official course outline must be finalized and signed by the Associate Chair before disclosure to students. Any revisions of the course outline should be sent to the Associate Chair, Undergraduate Studies.

COURSE REPEATS

The grade earned for a repeated course is substituted for the previous grade in calculating subsequent cumulative grade point average even if the later grade is lower, but both attempts are recorded on your transcript.

No course can be repeated more than twice (three completions in total when the original attempt is included). If at least one of the course attempts results in a passing grade, the course will count towards graduation requirements irrespective of the sequence of grades earned. A student will receive a PERMANENT PROGRAM WITHDRAWAL Standing after three failures in the same required course. Equivalent courses taken elsewhere under Letter of Permission and where a 'Failed' grade has been received will also be included in the three failure count.

CURRICULUM COURSE SUBSTITUTION

A curriculum (course) substitution assesses the suitability of substituting a Toronto Metropolitan University course that is not part of the normal curriculum for a course within a student's program. In some cases, the required course is not being offered in the term requested by the student, or it may be as a result of changes to a program's curriculum. Course Substitution forms are available on the website: www.torontomu.ca/currentstudents/forms/course_sub_ugrd.pdf

Approved substitutions will be reflected on the student's Advisement Report through MyServiceHub. Students whose applications are denied will be notified via their Toronto Metropolitan University email address.

D DEAN'S LIST CRITERIA

Undergraduate students in the Faculty of Engineering and Architectural Science who have achieved the highest level of academic excellence in a given academic year will be placed on the Dean's List. Dean's lists will be published annually on the Faculty website. To be eligible for consideration for the Dean's List in the Faculty of Engineering and Architectural Science, undergraduate students must:

1. Carry an average unit load of 4.0 billing units or higher for the two terms of the academic year under consideration (fall and winter).
2. Obtain a minimum GPA of 3.5 for the academic year under consideration. The minimum GPA applies for both the fall and winter terms exclusively, in addition to the student's overall GPA for the year.
3. Obtain passing grades in all courses and a clear academic standing for both terms.
4. Not have received any Disciplinary Notation(s) (DNs) in the academic year under consideration.

DEPARTMENTAL COUNCIL AND BY-LAWS

The Department of Civil Engineering Departmental Council is made up of the Chair, faculty, staff and student representatives from the Department of Civil Engineering. The purpose and objective of Council is to recommend academic policies relevant to the Department. Objectives of the Council include promoting effective teaching, learning and research in a collegial environment within the Department. The Departmental Council also works with the administration and other groups within the University around areas of common concern. The By-Laws of Departmental Council are available

for viewing in the Department of Civil Engineering Office, room MON-221. Students who are interested in becoming members of the Departmental Council should contact the Civil Engineering Administrative Office hrusan@torontomu.ca for further information.

D2L

Brightspace by D2L, (or simply D2L for short) is the current learning management system implemented for Toronto Metropolitan University. Accessed through your my.torontomu.ca portal it is the primary way that your professors will share course information - including course outlines, assignments, grades and more. If you are successfully enrolled in a course, you will gain access to the course on D2L at the start of the semester.

E E-MAIL ACCOUNT POLICY

All students in full and part-time graduate and undergraduate degree programs and all continuing education students are required to activate and maintain their Toronto Metropolitan University online identity in order to regularly access Toronto Metropolitan University's Email), MyserviceHub, my.torontomu.ca portal and learning system, and other systems by which they will receive official University communications.

Students are required to monitor and retrieve messages and information issued to them by the University via Toronto Metropolitan University online systems on a frequent and consistent basis. Students have the responsibility to recognize that certain communications may be time-critical. Students may forward their TMU E-mail account to another electronic mail service provider address but remain responsible for ensuring that all University electronic message communication sent to their official Toronto Metropolitan University E-mail account is received and read.

Procedures for student activation and use, as well as the Toronto Metropolitan University Student Computing Guidelines, shall be available on the Toronto Metropolitan University website. Students may communicate with Toronto Metropolitan and Toronto Metropolitan faculty, instructors, teaching and graduate assistants and staff in a variety of ways: in-person, by telephone or regular Canada Post, courier or registered mail or electronically. Toronto Metropolitan University requires that any electronic communications by students to Toronto Metropolitan University faculty or staff be sent from their official Toronto Metropolitan University E-mail account. This information is from Senate Policy # 157 and it can be found in its entirety at www.torontomu.ca/senate/policies.

ENGLISH LANGUAGE SUPPORT

English Language Support is offered by Student Learning Support for students who use English as an additional language looking for help with their writing, reading, listening, and speaking skills.

- Individual appointments & group sessions available
- Meet with a member of the English Language Support student staff to:
  - Improve your written and oral communication
  - Revise a written assignment
  - Practice and get feedback on an upcoming presentation

Contact information: www.torontomu.ca/studentlearning support
Email: sls@torontomu.ca Phone: 416-598-5978

EQUITY AND COMMUNITY INCLUSION (ECI)

The Faculty of Engineering and Architectural Science Equity and Community Inclusion (ECI) Office, provides you with the access to the experiences, tools and resources that will provoke you to reflect on different life experiences and understand the role you can play in representing Toronto Metropolitan University's equity, diversity and inclusion values in and outside of the classroom. The ECI office offers workshops, networking and mentorship opportunities, access to local and international conferences, and facetime with industry professionals and employers. To learn more about supports and services offered, please contact Nika Zolfaghari, Manager of FEAS Equity and Community Inclusion, nika.zolfaghari@torontomu.ca

EXAMS POLICY & SCHEDULE

You are responsible for making sure you are in the right place at the right time to write your exam. Please refer to the exam schedule on Toronto Metropolitan University website. You must be prepared to identify yourself with your Toronto Metropolitan University One Card at any time during the examination. If you do not have your Photo ID for whatever reason, the One Card Office can give you a temporary ID.

See Toronto Metropolitan University Student Guide for rules and proper conduct in exams and penalties for misconduct. Refer to Toronto Metropolitan website www.torontomu.ca or www.torontomu.ca/senate for Academic Integrity Policy and non-Academic code of conduct as well as the Senate Policy # 135: Exam Policy at www.torontomu.ca/senate/policies/pol135.pdf. Please see the Toronto Metropolitan University Calendar Significant Dates for Fall and Winter exam period dates and further information regarding the Exam Policy.

F FACULTY ADVISORS

The following Department of Civil Engineering Professors are your Faculty Advisors for Fall 2026 / Winter 2027 and their contact information can be found in the Departmental Directory of this Student Handbook:

ACI American Concrete Institute - Construction Competition – Dr. Medhat Shehata
ACI American Concrete Institute - Design Competition – Dr. Reza Kianoush
AOLS Association of Ontario Land Surveyors – Dr. Mike Chapman
Canadian Institute of Geomatics – Dr. Songnian Li
Canadian Remote Sensing Society – Dr. A. Shaker
CSCE Student Chapter – Dr. Khaled Sennah
Concrete Canoe Competition – Dr. Medhat Shehata
Concrete Toboggan Competition - Dr. Medhat Shehata
Co-op Internship – Dr. Darko Joksimovic
ICE-TMU Student Chapter-Dr. K. Sennah
ITE Institute of Transportation Engineers – Dr. Bilal Farooq
National Popsicle Bridge Competition – Dr. Anwar Hossain
TSCE Student Chapter – Dr. Darko Joksimovic
Steel Bridge Competition – Dr. Khaled Sennah
Student Faculty Mentor – Dr. Jinyuan Liu
Timber Fever – Dr. Khaled Sennah

FORMS

Forms related to academic matters listed below can be found at the following website: www.torontomu.ca/registrar/forms and www.torontomu.ca/civil/forms-resources

Admission, Enrolment and Withdrawal
Curriculum Advising, Transfer Credits, Substitutions and Adjustments
Academic Consideration, Health Certificates and Petitions Related to Missed Work
Academic Probation, Reinstatement and Redeemable Failures
Academic Appeals
Plan Change Requests
Requests for Documentation (eg.Transcripts, RESP, Proof of Enrolment)
Graduation and Convocation

G GRADE POINT AVERAGE

A cumulative grade point average (CGPA) is calculated as an indicator of overall academic performance and is used as a criterion for graduation requirements, honours graduation, other academic distinctions and for determining academic standing during study in a program.

The grade point average is calculated as the sum of the products of course weights and earned grade points, divided by the sum of the course weights, and rounded up to the next higher second decimal place.

GRADE POINT AVERAGE ADJUSTMENT

Only students who are active in a program for which a CGPA is calculated, may submit a GPA Adjustment request. Forms are available online at www.torontomu.ca/current-students and must be submitted no later than the final date to add a course for the term in which the GPA Adjustment will apply. Only the CGPA for the current term will be adjusted. Academic Standings and CGPAs from previous terms will not be adjusted.

A GPA Adjustment can occur under one of the following conditions:

1) **Course Replacement**: Permits a student to use a new course to replace, for GPA purposes only, a previously graded Professional, or Liberal Studies course, both of which belong to the same group or table.

2) **Course Exclusion**: Permits a student to request that certain courses be excluded from his/her CGPA calculation, if the course is a course that is not applicable to the student's program of study; **OR** there is an extra course that was taken in addition to the student's program requirements.

The GPA Adjustment Request Form can be found at this link:
www.torontomu.ca/content/dam/currentstudents/forms/gpaadjust.pdf

GRADE REASSESSMENT AND GRADE RECALCULATION

Students' requests for a grade reassessment must be based on sufficient academic grounds and be supported by evidence and documentation (e.g. from the course outline, course notes, textbooks, assignment grade rubric). Merely asserting that the work deserves a higher grade, that

the student disagrees with the grade or that the assignment was the result of a great deal of effort, is insufficient support for a grade reassessment. At each stage of reassessment, the student must explicitly respond to the comments made in the previous assessment or reassessment in support of their argument that the grade does not reflect the academic merit of their work.

Please refer to Senate Policy # 162 Grade Reassessment and Grade Recalculation for further information.

H HEALTH CERTIFICATE

If a student misses the deadline date for submitting an assignment, or missing an exam or other evaluation component for health reasons, they should notify their instructor as soon as possible, and must also submit a Toronto Metropolitan University Student Health Certificate AND the Online Academic Consideration Request (ACR) form at this link: www.torontomu.ca/senate/StudentInfo/AcademicConsiderationRequest/ within 3 working days of the missed date to the Department of Civil Engineering.

The Health Certificate form document is available at www.torontomu.ca/senate/forms/medical.pdf.

If you have extenuating and documented reasons for not being able to submit your required online ACR form and health certificate within three working days, please contact the Civil Engineering Office as soon as possible by phone (416) 979-5345 or email: civil@torontomu.ca

HUMAN RIGHTS SERVICES

Toronto Metropolitan University's Office of Human Rights Services works with members of the Toronto Metropolitan University community to promote a study, work and living environment free of discrimination and harassment. Their services are available to all Toronto Metropolitan University employees, students, alumni and visitors.

The Office advocates for fairness and for a community where the dignity and human rights of all its members are respected and upheld.

Human Rights Office contact: humanrights@torontomu.ca, Ph: 416-979-5349, POD-254A
Website: https:// www.torontomu.ca/humanrights/

I INCOMPLETE GRADE (INC)

Incomplete coursework or a missed final examination due to documented medical or compassionate grounds is recorded as Incomplete (INC) on transcript at the end of a term. An INC grade can be awarded only when some work remains to be completed and when the completion of the outstanding work or an alternate final examination may result in a passing grade. An INC will be assigned to students who have not completed a required Academic Integrity Tutorial for educational purposes as defined in Policy 60, the Student Code of Academic Conduct. The outstanding work or alternate examination must be completed by a specified date within **three months** of the submission of the INC unless alternative arrangements have been made with the program's Chair/Director.

The INC will be replaced by an official course grade when the work is completed. If the

work is not completed by the deadline, the INC will become a grade of F. The designation INC is not included in calculating the grade point average nor is it counted as a transfer credit or failed course. An INC can be changed to an AEG (see below) by a Dean under exceptional circumstances.

INTERNATIONAL STUDENT SUPPORT

International Services for Students (ISS) provides many support services for registered international students, facilitating their transition to Canadian university life and promoting cultural awareness to the Toronto Metropolitan University Community. ISS strives to provide helpful and comprehensive support to all international students throughout their time at Toronto Metropolitan University. Some of the essential services that ISS provides include international student orientation, immigration advising and support, health insurance, status letters, work opportunities, events, workshops, peer support and much more. For further information please visit the following website www.torontomu.ca/internationalservices The ISS Office is located in POD-50A, Phone Number is (416) 979-5000 ext. 556634, email address is issask@torontomu.ca

L LETTER OF PERMISSION

Students who wish to take courses at another accredited university for credits towards their Bachelor of Engineering degree must apply with a Letter of Permission application form in advance of registering in the course to ensure that the course if completed successfully will count towards their degree. Information regarding eligibility, letter of permission conditions, how to apply, application forms and how to obtain credit in the course are available online www.torontomu.ca/curriculum-advising/curriculum-exceptions/letter-permission/ Requests must be submitted and approved prior to taking the courses at the other institution.

M MATH SUPPORT

Student Learning Support offers comprehensive support to all Toronto Metropolitan University students looking for help with math, guidance in their math-related courses, or simply to develop their math skills. Individual tutoring, course specific group tutoring, and facilitated study groups are available to improve your math skills and support your success in math-related courses across all faculties. The Math Centre is located on the fourth floor of the Student Learning Centre, Phone No. is (416) 979-5000 ext. 2993. Email is sls@torontomu.ca

MEDICAL CENTRE

The Toronto Metropolitan University Health Center is a medical clinic staffed by physicians, a lab technician and receptionist. Appointments can be made by calling 416-979-5070, email medicalct@torontomu.ca The Centre is located in West Kerr Hall, Room KHW 181, 350 Victoria Street. Services are similar to those you receive from your family doctor. The clinic also provides services such as form completion, HIV/STD testing, sexual education, counseling and treatment, psychosocial counseling and referrals and prescription refills. Please bring your health card to every visit or you will be charged for services. Hours of operation vary throughout the year. Please see www.torontomu.ca/healthservices for details.

MENTORING PROGRAM

The Department of Civil Engineering established a student mentoring program in which students are encouraged to meet with the designated faculty member to discuss general issues that may arise and might be affecting your studies. The Student Faculty Mentor would not provide advice on specific academic matters, such as curriculum advising, course addition/deletion, probationary contracts, etc. as such matters are handled by the Associate Chair of the Undergraduate Program, Dr. Rania Hamza. The Department hopes that this program will give students an opportunity for positive growth both personally and professionally. Dr. Jinyuan Liu is the Student Faculty Mentor for Fall 2026/Winter 2027 and his office is in MON311, email address jinyuan.liu@torontomu.ca Ph: 416-979-5000 ext. 556469.

MINORS

A Minor is an opportunity for a student to explore a secondary area of undergraduate study either for personal interest beyond a student's degree program, or as an area of specific expertise related to the student's degree program that will serve the student's career choice.

A Minor consists of six one-semester courses with a relationship based on discipline, theme and/or methodology, as determined by the program offering the Minor and approved by the Senate.

For more information see Senate Policy #2 Section 7.4 and the current online Undergraduate Calendar F2025/W2026.

MUES – METROPOLITAN UNIVERSITY ENGINEERING SOCIETY

Toronto Metropolitan University Engineering Student Society (MUES) represents all undergraduate engineering students at Toronto Metropolitan University. Their mandate is to provide quality programming throughout the year that allows Toronto Metropolitan University Engineering students an avenue for extracurricular involvements.

O

OFFICE OF THE OMBUDSPERSON

The Office of the Ombudsperson at Toronto Metropolitan University is a safe place to get advice and assistance with resolving a problem, concern or conflict fairly, or to obtain information that you were not able to obtain elsewhere.

The Ombudsperson and Assistant Ombudsperson will work with students, faculty and staff to seek an expeditious and just resolution to problems and conflicts at the University that they have not been able to resolve themselves.

You can reach the Office of Ombudsperson at Tel: 416-979-5000, ext. 1-557450, or email ombuds@torontomu.ca

Their office is located at Oakham House, 2nd Floor, Rooms OAK 214/215/216, 63 Gould St. (at the corner of Church St.). The Ombudsperson's Office Website address is www.torontomu.ca/ombuds/person/about

P POLICIES (SENATE)

For a complete list of Toronto Metropolitan University's Senate Policies, please see:

www.torontomu.ca/senate/policies

Senate Policy Name	Senate Policy Number
Academic Accommodation of Students with Disabilities	159
Accommodation of Student Religious, Aboriginal and Spiritual Observance	150
Academic Consideration	167
Course Management Policy	166
Final Exams	135
Grade and Standing Appeals and Procedures	168
Grade Reassessment and Grade Recalculation	162
Undergraduate Grading, Promotion, and Academic Standing, the "GPA" Policy	46
Toronto Metropolitan University Email Accounts for Official University Communication	157
Academic Integrity	60
Student Code of Non-Academic Conduct	61

PRIVACY STATEMENT/INFORMATION PROTECTION AND ACCESS POLICY

The University has a policy on access to information and protection of personal information. The policy can be found at www.torontomu.ca/privacy The University's Information and Privacy Coordinator has been appointed as the administrator responsible for such issues. Please direct any questions to fippa@torontomu.ca or call 416.979.5000 ext 4676.

PROBATIONARY CONTRACT

PROBATIONARY ACADEMIC STANDING - a cumulative grade point average (CGPA) of 1.00 to 1.66. Engineering students who have a term grade point average (TGPA) less than 1.33, based on at least two reported grades for that term (not including Pass, DEF, INP or AEG grades). Students who have a TGPA less than 1.33 will also be given PROBATIONARY Academic Standing

Students with Probationary standing are required to have a developmental Probationary Contract outlining a specific plan for studies and academic supports authorized by their Program Department, and signed by the student. Students who fail to have such a Probationary Contract by the last day to add courses for the specified term will have their course registrations and course intention requests cancelled for the term in question.

Students with a Probationary standing at the start of any semester will be eligible to continue their studies in a subsequent semester as long as they achieve a term grade point average (TGPA) of 1.67 or higher and they meet the terms of their Probationary Contract and do not violate approved Department/School standing variations. Failure to meet the terms of the Probationary Contract as set out by the Department of Civil Engineering will result in the student being Required to Withdraw from their Toronto Metropolitan University program.

R RELIGIOUS, ABORIGINAL AND SPIRITUAL OBSERVANCE

It is the policy of Toronto Metropolitan University to accommodate the sincerely held religious beliefs of all students. Toronto Metropolitan University is a community which celebrates diversity and places a high value on inclusion and respect for differences. Toronto Metropolitan University recognizes that the religious, Aboriginal or spiritual observances of students may conflict with their academic obligations and could potentially lead to a disadvantage if an accommodation is not arranged. Toronto Metropolitan University also accepts that sincerely held beliefs by members of the same religious group or Aboriginal peoples (from different nations) often engender different types of commitments for observance practices. In accordance with the principles of the Ontario Human Rights Code, which requires accommodations based on creed, this policy outlines how accommodations for the religious, Aboriginal or spiritual observances of the Senate Policy 150 outlines how accommodations for the religious, Aboriginal or spiritual observances of Toronto Metropolitan University students will be determined.

If a student needs accommodation because of religious, Aboriginal or spiritual observance, they must submit a Request for Accommodation of Student Religious, Aboriginal and Spiritual Observance AND an Academic Consideration Request form within the first two weeks of the class or, for a final examination, within 2 weeks of the posting of the examination schedule. If the requested absence occurs within the first two weeks of classes, or the dates are not known well in advance as they are linked to other conditions, these forms should be submitted with as much lead time as possible in advance of the absence. Both documents are available at http:// www.torontomu.ca/senate/forms/relobservforminstr.pdf**.** and must be submitted to the Department of Civil Engineering.

The Student Declaration of Religious Observance form is available at the above-mentioned websites, which are linked to Religious Observance calendars through the Discrimination and Harassment Prevention Services website, providing students and faculty with a comprehensive description of some observance obligations.

REPEATING COURSES

You do not need a CGPA adjustment request if you are repeating the same course. If you are repeating a course, both grades will show on your transcript. If you earned a passing grade in a course, but then re-take and fail the same course, then the failed grade (most recent grade) will count towards your CGPA calculation. If at least one of the course attempts results in a passing grade, the course will count towards graduation requirements irrespective of the sequence of grades earned.

No course can be repeated more than two times. If after three attempts, you fail a required engineering course, your academic standing will change to Permanent Program Withdrawal.

RITE – TORONTO METROPOLITAN UNIVERSITY INSTITUTE OF TRANSPORTATION ENGINEERS

Toronto Metropolitan University's Institute of Transportation Engineers student chapter (RITE) is a forum for students in transportation engineering programs or other students interested in the transportation field. Their goals are to introduce students to and advance their knowledge of the

transportation engineering profession; to promote professional spirit; and to host interesting educational events and discussions. www.civil.torontomu.ca/RITE/

S SCHOLARSHIPS & AWARDS

Toronto Metropolitan University offers many scholarships and awards to new and returning students. Details can be found on the Toronto Metropolitan University website at this web address: www.torontomu.ca/currentstudents/awards as well as on the Civil Engineering website: www.torontomu.ca/civil and the Faculty of Engineering and Architectural Science website www.feas.Toronto Metropolitan.ca. Information on awards and scholarships is also available from the Financial Aid and Awards Office www.torontomu.ca/registrar/students/scholarships/

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SENATE

Toronto Metropolitan University's Senate holds academic authority, and is responsible for maintaining, communicating and implementing institutional policies pertaining: to the content and quality of all programs and courses of study; the standards of admission to the university; and the qualifications for obtaining degrees, diplomas and certificates. It is responsible for determining the curricula for all programs, admission and graduation requirements, conducting examinations, awarding certificates, diplomas, and all degrees. All of the Senate policies and by-laws can be found in their entirety at the Toronto Metropolitan University Senate website: www.torontomu.ca/senate/policies

Much of Senate's work is done through its Standing Committees. These Committees include Academic Governance & Policy, Scholarly Research & Creative Activity, Senate Appeals, Academic Standards, Awards & Ceremonials, Learning and Teaching, Senate Priorities, Nominations and Elections and the Research Ethics Board.

The Senate consists of elected representatives of the university's faculty, librarians, students and alumni, and seven non-voting associates. Senate is chaired by the President. Much of Senate's work is carried out through its committee structure, and students are especially encouraged to serve on one or more committees to get first-hand knowledge of how the University sets academic policies and makes decisions.

Information on Senate, its membership, committees, policies, elections, etc., can be found at www.torontomu.ca/senate.

MY.SERVICEHUB – TORONTO METROPOLITAN UNIVERSITY'S ADMINISTRATIVE MANAGEMENT SELF SERVICE

My.Servicehub is a web-based support tool for students and is accessible through the my.Toronto Metropolitan.ca web portal with your Toronto Metropolitan e-mail account and password. My.servicehub offers enhanced levels of services that are provided by Enrolment Services.

You may access ServiceHub via www.my.torontomu.ca to:

- View and print your class schedule
- Check for course schedule, availability and location
- Add, drop, and swap classes
- Update your address and other contact information including your email address

- View your financial student account
- View your grades and academic standing
- View your academic advising report

SERVICE HUB (REGISTRAR'S OFFICE)

ServiceHub/Client Services provides front-line support, information and advising via the ServiceHub for the Office of the Registrar (RO) for questions about undergraduate program choices, admission requirements, application procedures and the selection process, submission and/or pick-up of documents and completed forms (e.g. third party letters, degree certificates); student financial assistance (e.g. OSAP and scholarships); enrolling in courses, Continuing Education course registration; class schedules and exams; applying to graduate, My.Servicehub support; tuition, fees and more. ServiceHub representatives are often the first point-of-contact for prospective, current and former students, applicants, parents, and guidance counsellors, as they respond to in-person, telephone, email and social media inquiries.

Phone: (416) 979-5036 service available Monday to Friday 10 am to 4 pm.

Mailing Address: Toronto Metropolitan University, Service-Hub, Office of the Registrar,

350 Victoria Street, Toronto, ON, M5B 2K3

Email Ask ServiceHub:

Search popular questions 24 hours a day, 7 days a week

ServiceHub Ambassadors will respond to emails Monday to Friday 9 am to 4:30 pm (EST)

SIGNIFICANT DATES

For important deadline dates information regarding tuition fee refunds schedule, semester start and end dates, course drops, program withdrawals deadline, etc. please refer to Significant Dates section of current Fall 2024/Winter 2025 Undergraduate Calendar: www.ryerson.ca/calendar

STUDENT LIFE & LEARNING SUPPORT

Student Learning Support (SLS) is a group of services and programs aimed at helping students engage more effectively in their academic studies. They teach essential academic skills and study techniques that help students to more effectively express their intelligence, apply their knowledge and communicate their ideas.

Support areas include the following: Academic Accommodation, English Language, Graduate Student, Math, Study Skills and Transition, Writing, and Workshops.

The Student Learning Support office: Please contact their main office by phone at 416.598.5978 or by email sls@torontomu.ca. The Front Desk Reception can be contacted by email at sls@torontomu.ca

Website : www.torontomu.ca/studentlearningsupport

T

TERM GPA (TGPA)

Academic performance in a particular term is measured by Term Grade Point Average which is a weighted average of the grades earned in all the courses taken in a term. TGPA is calculated at the end of each academic term.

TMSU – TORONTO METROPOLITAN'S STUDENTS UNION

Representing all full-time Toronto Metropolitan University undergraduate students, as well as full and part-time graduate students, the TMSU builds campus community by organizing events and supporting student groups, course unions, equity groups and graduate students' associations. The Executive and staff advocate on behalf of students to meet their needs with an aim to improve access to and the quality of post-secondary education. The TMSU also provides cost-saving services to benefit Toronto Metropolitan University students.

The Toronto Metropolitan University Students' Union main office is located at SCC311, Student Campus Centre, third floor, 55 Gould Street. Phone (416) 979-5255, Email info@tmsu.ca, Website www.yourtmscu.ca

TRANSFER CREDITS

Transfer Credits refer to the number of course equivalencies that are granted towards a program of study based on previous academic course work from an accredited university.

Students who are eligible or are planning to apply for transfer credits for courses that they completed at other accredited post-secondary institutions must collect officially certified transcripts, course description and course outlines as early as possible. These documents along with your application for transfer credits must be submitted to the Office of Curriculum Advising.

Applicants approved into an Engineering program cannot expect to receive any transfer credits in Engineering discipline or Engineering related discipline courses if their applicable post-secondary education was not completed at a program accredited by the Canadian Engineering Accreditation Board (CEAB). Refer to www.ccpe.ca/e/index.cfm for a listing of CEAB accredited institutions. Core and Professional Engineering course transfer credits will ONLY be granted at the time of admission. An Offer of Admission will notify the applicant of transfer credit decision(s) subject to acceptance of their Offer.

Liberal Studies discipline courses taken at CEAB accredited or non-accredited schools will be considered for either lower- or upper-level liberal studies transfer credit. College courses, in general, are not eligible for transfer credit except in the case of lower-level liberal studies courses.

For further information about transfer credits, please see the following website:
www.torontomu.ca/currentstudents/transfercredits/

TRI-MENTORING PROGRAM

The Tri-Mentoring Program is a centralized model that offers mentorship opportunities to students of all identities across all faculties. The program matches first year students with upper year students in the same program or with similar interests in order to help incoming students successfully transition into their first year at Toronto Metropolitan University. Career Mentoring: Through Career Mentoring, students in 3rd year or above are matched with an industry professional

for guidance and encouragement progressing towards their goals The Program facilitates student's learning, leadership and employment through mentoring, getting students involved and having them meet other people. Toronto Metropolitan students also have the opportunity to get involved in Group Mentoring with various identified equity seeking groups in order to connect and share their experiences.
Please see www.torontomu.ca/student-life-and-learning/trimentoring/

TUTOR REGISTRY

The Tutor Registry is a tutor database that matches a student who needs assistance with the material in a Toronto Metropolitan University course with a student who successfully completed the course.

Student Learning Support verifies that the potential tutor is a current Toronto Metropolitan University student, that he/she has achieved at least a B+ in the course for which they are offering tutoring services, and that the potential tutor's CGPA (Cumulative Grade Point Average) is above 3.0. For more information regarding the Tutor Registry contact sls@torontomu.ca or phone (416) 598-5978.

U

UNDERGRADUATE RESEARCH ASSISTANTSHIPS

If you have a deep interest in data analysis, lab work or exhibition curation, a job as an undergraduate research assistant could be ideal. You will spend two terms (spring and summer) working for a professor who is pursuing innovative research in an area such as microfluidics, urban development or artificial neural networks, to name a few. It is a unique opportunity for you to make an impact in your field of study, earn an income, and develop the skills and experience that could give you an edge in your job search after graduation. It is also an excellent way to find out if graduate studies would be right for you. To be considered for a research assistantship, you must be in the third year of Civil Engineering undergraduate degree Program, and have a CGPA of 3.0 or higher. You may not concurrently hold another research assistant position on campus during the period of your employment. To apply, a professor must apply on your behalf. However, it is up to you to approach them and inquire about a research assistantship.

W

WOMEN IN ENGINEERING

Women in Engineering (WIE) is dedicated to providing education and outreach for female students considering a rewarding engineering career, and to promoting a friendly, supportive and inclusive environment in which women can pursue their engineering studies.

You can attend special evenings, listen to guest speakers, or get involved with a female mentor working in the engineering industry. For further information, please see www.torontomu.ca/feas/wie/ The contact information for Women in Engineering is by email feassci@torontomu.ca

WRITING SUPPORT PROGRAM

The Writing Support offers programs online that will help you develop your academic writing skills and your approach to the writing process. The Writing Support Program is for students looking to improve their writing skills and receive help with their writing assignments.

Book your appointment online /studentlearningsupport/writing-support for:

- Individual writing support
- Understand the expectations of university-level writing
- Discuss your ideas and clarify your thinking
- Learn to integrate sources and paraphrase correctly

STUDENT RESOURCES DIRECTORY

INQUIRY	CONTACT INFORMATION	AREA / LOCATION
ACADEMIC SERVICES		
Civil Engineering Program Academic and administrative support (Academic Years 2 to 4)	(416) 979-5345 civil@torontomu.ca Dianne Mendonca Dr. R. Hamza Associate Chair (416) 979-5000 Ext. 557618	civil@torontomu.ca www.torontomu.ca/civil MON-221 rhamza@torontomu.ca
Suspension/Required to Withdraw (Academic Years 2 to 4)	Dianne Mendonca (416) 979-5345 civil@torontomu.ca	civil@torontomu.ca MON-221
Advocacy	(416) 979-5255 Ext. 552322 advocacy@yourtmsu.ca	advocacy@yourtmsu.ca TMSU: 55 Gould Street
CO-OPERATIVE INTERNSHIP PROGRAM		
Academic Eligibility Enrolment in WKT Work Term Reports Academic Admission Work Term Reports Co-op Portal, Job Postings, Job Applications, Interviews, Job Offers, Career Support, CIP Events and Workshops	Dianne Mendonca (416) 979-5345 civil@torontomu.ca Dr. Darko Joksimovic CIP Faculty Advisor (416) 979-5000 Ext. 556462 darkoj@torontomu.ca feascoop@torontomu.ca	civil@torontomu.ca www.torontomu.ca/civil MON-221 darkoj@torontomu.ca feascoop@torontomu.ca FEAS Co-op Office
MENTORING - DEPARTMENT OF CIVIL ENGINEERING		
Non-academic Guidance and Career Mentoring	Dr. Jinyuan Liu	inyuan.liu@torontomu.ca MON-311
REGISTRAR'S OFFICE (ServiceHub)		
Financial Aid (e.g. OSAP)	(416) 979-5036	Registrar's Office ServiceHub

Tuition & Fees Transfer Credits Transcript Requests Letter Requests CGPA Adjustment Requests	Ask Servicehub servicehub@torontomu.ca	POD-150
MONEY MATTERS		
OSAP and Student Access Guarantee Work-study Scholarships Tuition and Fees	(416) 979-5036 servicehub@torontomu.ca	Registrar's Office ServiceHub POD-150
Department of Civil Engineering Awards and Scholarships	Helen Rusan hrusan@torontomu.ca (416) 979-5000 Ext. 544400	hrusan@torontomu.ca MON-221
Student Projects Funding	(416) 979-5000 Ext. 557352 pfacs@torontomu.ca	pfacs@torontomu.ca P-FACS Student Projects Fund POD-61
TMU Bursary	(416) 979-5255 finaid@torontomu.ca	finaid@torontomu.ca SCC-311
COMPUTER SERVICES		
Civil Engineering Undergraduate Computer Lab – EPH-230	Des Rogan drogan@torontomu.ca (416) 979-5000 Ext. 554677	drogan@torontomu.ca
D2L & other Computer Support	Computing and Communications Services help@torontomu.ca (416) 979-5000 Ext. 556840	Student HelpDesk help@torontomu.ca KHW-71 or Library
LEARNING ASSISTANCE		
Student Learning Support	(416) 598-5978 sls@torontomu.ca	Student Learning Support SLC- 4th Floor
Study Skills and Transition Support	(416) 598-5978 sls@torontomu.ca	Student Learning Support SLC- 4th Floor
English Language Support	(416) 598-5978 sls@torontomu.ca	Student Learning Support SLC- 4th Floor
Writing Support	(416) 598-5978 sls@torontomu.ca	Student Learning Support SLC- 4th Floor
Math Support	(416) 598-5978 sls@torontomu.ca	Student Learning Support SLC- 4th Floor

Tutor Registry	(416) 598-5978 sls@torontomu.ca	Student Learning Support SLC- 4th Floor
Reference Material and Research Assistance	(416) 979-5055 www.library.ryerson.ca	Library www.library.ryerson.ca LIB 2nd Floor
Books and Supplies	(416) 979-5116 bookstor@torontomu.ca	Campus Bookstore www.campusstore.ryerson.ca
ACCOMMODATIONS FOR A DISABILITY		
Academic Accommodation Support	(416) 979-5290 aasadmin@torontomu.ca	aasadmin@torontomu.ca Student Learning Support SLC – 4th Floor
Test Centre	(416) 979-5000 Ext. 557932 testcentre@torontomu.ca	testcentre@torontomu.ca Test Centre VIC-B-16
Advocacy	(416) 979-5255 Ext. 4504 access@torontomu.ca	access@torontomu.ca TMU Access SCC-213
COUNSELLING		
Personal, Career and Educational Counselling	(416) 979-5195 csdc@torontomu.ca	csdc@torontomu.ca Centre for Student Development and Counselling JOR-07
PERSONAL SAFETY / CRISIS INTERVENTION		
Discrimination; Harassment	(416) 979-5349 humanrightsl@torontomu.ca	humanrightsl@torontomu.ca POD-254-A
Safe House	(416) 979-5195 cscd@torontomu.ca	Centre for Student Development & Counselling (416) 979-5195 cscd@torontomu.ca
Security	On Campus For emergency dial 911 (416) 979-5040 security@torontomu.ca	Security 285 Victoria St., 1st Floor On Campus: For emergency dial 911 security@torontomu.ca
Toronto Metropolitan Crisis Team	Call 911 or go to Emergency Department of nearest hospital	Call 911 or go to Emergency Dept. of nearest hospital
HEALTH AND WELLNESS		

Recreation and Athletics Centre	(416) 979-5096 recreation@torontomu.ca	Recreation & Athletics Centre recreation@torontomu.ca
Aids Education, Nutrition, Physical Health, Stress Management	(416) 979-5000 Ext. 554295 healthpromotion@torontomu.ca	Health Promotion healthpromotion@torontomu.ca POD-256C
Physicians, flu vaccines, medical notes	(416) 979-5070 healthct@torontomu.ca	Medical Centre KHW-181 (416) 979-5070 healthct@torontomu.ca
Health & Dental Plan	(416) 979-5255 Ext. 2311 health@yourtmsu.ca	SCC, 55 Gould St. health@yourtmsu.ca
CAREER SERVICES		
Career Centre	(416) 979-5177 career@torontomu.ca	career@torontomu.ca Career Centre POD-60
On-Campus Jobs	(416) 979-5177 careerboost@torontomu.ca	career@torontomu.ca Career Centre POD-60
Off-Campus Work Permits for International Students	(416) 979-5000 Ext. 556655 issask@torontomu.ca	issask@torontomu.ca International Student Support POD-50A
Career and Educational Decision Making	(416) 979-5195 csdc@torontomu.ca	csdc@torontomu.ca Centre for Student Development & Counselling JOR-07
HOUSING		
Off-Campus Housing	(416) 979-5284 housing@torontomu.ca	housing@torontomu.ca Housing and Residence Life PIT-100
On-Campus Housing	(416) 979-5284 housing@torontomu.ca	housing@torontomu.ca Student Housing Services PIT-100
STUDENT IDENTIFICATION		
Student I.D. Card	(416) 979-5000 Ext. 557565 onecard@torontomu.ca	onecard@torontomu.ca OneCard Office POD-48
Proof of Enrolment	(416) 979-5136 Request on MyServiceHub	Request on MyServiceHub ServiceHub POD-150
LEGAL ADVICE		

Free Legal Advice	(416) 979-5255 Ext. 552315 legal@yourtmsu.ca	legal@yourtmsu.ca TMU Legal Advocacy Services SCC: 55 Gould Street
Immigration and Legal Advising for International Students	(416) 979-5000 Ext. 556655 issask@torontomu.ca	issask@torontomu.ca International Services for Students POD-50A
PARKING		
Student Permits Daily Parking	(416) 979-5008 tmuparking@torontomu.ca	tmuparking@torontomu.ca University Business Services
Bicycle Parking	(416) 979-5008 tmuparking@torontomu.ca	tmuparking@torontomu.ca University Business Services

DEPARTMENT OF CIVIL ENGINEERING DIRECTORY

Dr. D. Joksimovic	**Chair, Department of Civil Engineering**
Dr. R. Hamza	**Associate Chair, Undergraduate Program**
Dr. S. Li	**Associate Chair, Graduate Studies Program**

Administration Office Room: MON-221 Email: civil@torontomu.ca Phone: (416) 979-5345

Faculty	Email Address	Phone (416) 979-5000 Extension:
Dr. L. Amleh	lamleh@torontomu.ca	556417
Dr. M. Chapman	mchapman@torontomu.ca	556461
Dr. S. Easa	seasa@torontomu.ca	557868
Dr. E. Elbeshbishy	elsayed.elbeshbishy@torontomu.ca	557618
Dr. A. El-Rabbany	rabbany@torontomu.ca	556471
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Dr. M. Lachemi	pres@torontomu.ca	555002
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