McGill University

Department of Civil Engineering and Applied Mechanics

UNDERGRADUATE STUDENT HANDBOOK

2020-2021

Updated August 2020

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Academic Advisory Personnel

You are strongly advised to meet with the Undergraduate Student Affairs Coordinator or an advisor at least once per year. This will help avoid any unnecessary complications that may result in a delay of your graduation.

Chair of the department

Professor Mohamed Meguid ENGMD 494 mohamed.meguid@mcgill.ca

Associate Chair (Undergraduate Student Affairs)

Professor Jinxia Liu ENGMD 475C jinxia.liu@mcgill.ca

Sr. Adminstrative Student Affairs Coordinator (Undergraduate Student Affairs)

Anna Dinolfo ENGMD 496 anna.dinolfo@mcgill.ca

Undergraduate Student Advisor (U0 and U1 students)

For non-registration related questions and advise
Professor Colin Rogers ENGMD 475a colin.rogers@mcgill.ca

Undergraduate Student Advisor (U2 and U3 students)

For non-registration related questions and advise
Professor Yixin Shao ENGMD 475B yixin.shao@mcgill.ca

Faculty of Engineering | McGill Engineering Student Center (MESC)

Student Affairs office FDA Room 22 514-398-7257
advisor.engineering@mcgill.ca

Services include: general advising and counselling • decisions on academic standing • information on Exchange and Study Abroad • granting of deferrals for illness during examinations • Peer Tutoring Service (EPTS) • reassessments and rereads of examinations and final grades • interfaculty and interdepartmental transfers • transfer students• granting of scholarships and awards.

Engineering Career Centre (ECC) FDA Rm 22 514-398-8100
Intern.engineering@mcgill.ca

ECC provides students with opportunities to gain career-related experience internships (Engineering Internship Program). Connect with employers. Learn about various career paths. Develop job search skills and more.

Other Key Contacts

Schulich Library of Physical Sciences, Life Sciences, and Engineering

Liaison Librarian for Civil Engineering		
Tara Mawhinney	McLennan Library Building	tara.mawhinney@mcgill.ca

Civil Engineering Undergraduate Society (CEUS)

President		
Rebekah Clarke Robinson	ENGMD RM 284/285/286	ceus.president@mcgilleus.ca

A Statement of Departmental Policy on Academic Integrity

The attention of all students is drawn to the following policy with regard to submissions made by them during their course of study.

As part of the course requirements, students make various submissions of their independent work. These submissions will take the form of written reports (for example, in courses CIVE 432 and CIVE 418) term papers, class tests, laboratory reports, design of project briefs, problem assignments, etc. These submissions will be considered in the evaluation of a student's progress and so it is important that they reflect the student's own work. Thus copying is obviously unacceptable. On the other hand, collaboration between students while working on assignments, and the seeking of help from teachers and demonstrators, is an accepted part of the learning process. However, it occasionally develops that what starts out to be "collaboration" turns out to be outright copying of one student's work by another.

Excerpt from the Academic Integrity website (**http://www.mcgill.ca/integrity/**):

"McGill's Code of Student Conduct and Disciplinary Procedures appear in the Handbook on Student Rights and Responsibilities. Article 15(a) of the Code, which is devoted to plagiarism, reads as follows:

No student shall, with intent to deceive, represent the work of another person as his or her own in any academic writing, essay, thesis, research report, project or assignment submitted in a course or program of study or represent as his or her own an entire essay or work of another, whether the material so represented constitutes a part or the entirety of the work submitted."

(S*ee www.mcgill.ca/students/srr/honest/ for more information).*

Since copying from any source will not be tolerated under any circumstances, it is in the interest of all students that the following rules and procedures be observed:

1. Each submission must be prepared, both in concept and execution, only by the student, or group of students, which make the submission. Exceptions must be specifically acknowledged within the submission.
2. Joint submissions by groups of students must be the result of equitable participation of each member of the group with respect to conception, experimentation, calculation, presentation, etc.
3. Quotations, if used, must be enclosed within quotation marks and the source of the quotation must be listed. Failure to do so will be considered as plagiarism.
4. The sources of all diagrams, figures, tables, etc., if not original, must be clearly acknowledged on the same page that contains the information involved.
5. No submission may be used more than once, either in whole or in part, without prior permission of the instructor and proper acknowledgement.

In the event of an infringement, the Department will take appropriate action, which may include declaring the submission void and/or referring the case to the Dean of Engineering for possible disciplinary action.

Program Planning and Registration

You are strongly advised to consult university, faculty and department websites for detailed information. At any time, if you're having difficulty, you can always contact program advisors in the department or the Faculty for assistance.

Key Academic Dates *(vary from year to year; the dates below only apply to 2020-2021)*

http://www.mcgill.ca/importantdates/key-dates

Fall Semester
Deadline to register for at least one course in order to avoid penalties: Friday, August 14
Deadline to cancel registration: Monday, August 31
Add/Drop deadline: Tuesday, September 15
Course or University Withdrawal with refund deadline: Tuesday, September 22
Course or University Withdrawal with NO REFUND deadline: Tuesday, October 27

Winter Semester
Deadline to cancel registration : Thursday, December 31
Add/Drop deadline: Tuesday, January 19
Course or University Withdrawal with refund deadline: Tuesday, January 26
Course or University Withdrawal with NO REFUND deadline: Tuesday, March 19

Class Schedule

There are two ways to view the Class Schedule:

- Go to www.mcgill.ca/students/courses/calendars/ and click on the Class Schedule icon **OR**
- Log in to Minerva and go to Registration Menu > Step 2: Search Class Schedule and Add Course Sections. Viewing the Class Schedule through Minerva shows the number of available places in a course section.

Visual Schedule Builder (VSB)

https://vsb.mcgill.ca/vsb/welcome.jsp

It is strongly recommend to use the web-based application to build potential class schedule options prior to and during registration periods. **VSB does not register students in courses -- only MINERVA can register a student in a course.** Key functions include:

- Build scheduling restrictions into potential schedules.
- Pin down classes that suit a student's schedule in order to rearrange others around it.
- Copy-paste the CRNs from their possible schedules to the Minerva Quick Add boxes in the Registration menu.

Registration on MINERVA

https://horizon.mcgill.ca
https://mcgill.ca/students/courses/add/register

Start registration by following each step on the MINERVA. Go to **Student Menu** > **Registration Menu**.

Step 1: check your registration eligibility and verify your curriculum
Step 2: search class schedule and add course sections, or use the "quick add or drop course sections" method by directly entering the CRNs
Step 3: verify registration fee assessment
Step 4: view student schedule by course section
Step 5: view personal weekly class schedule
Step 6: view tuition fee and legal status

You must not exceed the maximum credits per term permitted by your faculty. However, if you carry fewer than 12 credits per term, you will be considered a “part-time” student in that term.

Exam Schedules

http://www.mcgill.ca/students/exams/

- Midterm exam schedule is made by individual instructors and is not available at the university website.
- Final exam schedule (the end of term) is made by the university. Please consult the Exams website for schedules and also exam regulations.
- Deferred and supplemental exam schedule is made by the university. Please consult the same website.

Important Information on Mathematics

For students who have no previous calculus, the courses listed below are required.

- MATH 139 (4 credits) - see advisor for registering https://www.mcgill.ca/study/2020-2021/courses/math-139
- MATH 141 Calculus II (4 credits)
- MATH 262 Intermediate Calculus (3 credits)

S/U Option (Satisfactory/Unsatisfactory)

The S/U option cannot be used on the core (required) courses either towards your degree or your Minor program. For more information about the Satisfactory/Unsatisfactory grading mode, please see the following website:
http://www.mcgill.ca/engineering/students/current-students/undergraduate/courses-registration/courses-grades/su-option-complementary-courses

Students MUST code courses under the S/U option at the time of registration on MINVERA. The Option will NOT be added or dropped manually to a student's record after the Drop/Add deadline.

However, if you are taking a course solely for your own interest, you may code this course as “Extra”; in order to do this you must come to the Engineering Student Centre and fill out a Course Authorization Form which must be then signed by your department and brought back to us for processing.
http://www.mcgill.ca/engineering/files/engineering/request_for_course_authorization.pdf

Please note that this grading mode must be chosen on MINERVA prior to the add/drop deadline of the current term. If you have chosen a course that is not permitted as Satisfactory/Unsatisfactory, the S/U option will be manually removed from your record by MESC.

Repeated Courses Previously Completed

The Faculty of Engineering does not permit students to take the same course again for credit (this includes approved deferrals (L grades) AND/OR extensions (K grades); therefore you are advised to review your current schedule to ensure you have no duplicate registrations for the same course already successfully completed. Failure to make such change prior to the add/drop deadline of the current term may result in the duplicate course being removed from your record by MESC.

Courses Outside of Engineering/ Extra Courses

All Engineering students must follow the sample curriculum designed for their program. Students are not permitted to take more than 2 courses (total of 6 credits) outside of their core program in a given term. However, if students wish to take courses outside of Engineering; permission may be granted upon discussion and approval with a Departmental and Faculty advisor. Courses taken outside the degree program requirements are classified as extra and may be indicated by an "X" on a transcript. *(These are courses taken for personal interest and will not be credited towards the degree.)* A grade of a course coded as extra will not be calculated in the GPA; however, credits are counted towards a student's part-time/full-time status.

After registering for the course on MINERVA students must go to the Student Affairs Office and fill in a Course Authorization Form to have the coding manually entered on their record. Note, Departmental and Faculty approval are required.

The option will not be added to a student's record after the Drop/Add deadline. Courses which are taken to satisfy the student's engineering program or a Minor cannot be designated as extra.

Other Important Websites

University Courses and Programs: https://www.mcgill.ca/students/courses/

Programs, Courses and University Regulations publication: www.mcgill.ca/study

Faculty of Engineering | Undergraduate Students:
https://www.mcgill.ca/engineering/students/undergraduate

Faculty of Engineering | Academic Standing
https://www.mcgill.ca/engineering/students/undergraduate/advising-programs/academic-standing

Recommended Sequence of Courses for the 7-Semester Program (110 Credits)

Note: For the 7 complementary courses, choose 5 technical complementary courses (2 of which are Design Technical Complementary Courses), 1 Impact of Technology course and 1 Humanities/Social Sciences course. * CIVE 432 may be taken in Semester 7 after completing a minimum of 2 technical complementary courses.

SEMESTER 1 (15 cr)			SEMESTER 2 (18 cr)		
MATH 262	Intermediate Calculus	3 cr	MATH 263	Ordinary Differential Equations and Linear Algebra	3 cr
CIVE 290	Thermodynamics & Heat Transfer	3			
CIVE 205	Statics	3	CIVE 202	Construction Materials	4
COMP 208	Computers in Engineering	3	CIVE 206	Dynamics	3
xxxx-xxx	Humanities/Social Sciences	3	CIVE 207	Solid Mechanics	4
			MECH 289	Design Graphics	3
			FACC 100	Intro Engineering Profession	1
			SUMMER SESSION (2 cr)		
			CIVE 210	Surveying	2 cr
SEMESTER 3 (15 cr)			SEMESTER 4 (17 cr)		
CCOM 206	Communication in Engineering	3 cr	CIVE 225	Environmental Engineering	4 cr
CIVE 208	Civil Engineering Systems Analysis	3	CIVE 302	Probabilistic Systems	3
			CIVE 318	Structural Engineering II	3
CIVE 317	Structural Engineering I	3	CIVE 319	Transportation Engineering	3
EPSC 221	General Geology	3	CIVE 327	Fluid Mechanics & Hydraulics	4
MATH 264	Advanced Calculus	3			
FACC 250	Responsibility of the Professional Engineering	0			
SEMESTER 5 (14 cr)			SEMESTER 6 (15 cr)		
CIVE 320	Numerical Methods	4 cr	CIVE 324	Sustainable Project Management	3 cr
CIVE 323	Hydrology & Water Resources	3	*CIVE 432	Technical Paper	1
FACC 300	Engineering Economy	3	xxxx-xxx	Impact of Technology	3
CIVE 311	Geotechnical Mechanics	4	xxxx-xxx	Complementary #1	3
			xxxx-xxx	Complementary #2	3
			MECH 261	Measurement Laboratory	2
SEMESTER 7 (14 cr)					
FACC 400	Engineering Professional Practice	1 cr			
CIVE 418	Design Project	4			
xxxx-xxx	Complementary #3	3			
xxxx-xxx	Complementary #4	3			
xxxx-xxx	Complementary #5	3			

Civil Engineering Curriculum – Fall 2020 (CEGEP Entry, 7-Semester)

1st Term (Fall)		15 credits	Prerequisites/Co-requisites
CIVE 205	Statics	3	-
CIVE 290	Thermodynamics and Heat Transfer	3	-
COMP 208	Computers in Engineering	3	P - differential and integral calculus [MATH 140 and MATH 141] / C - linear algebra [MATH 133]
MATH 262	Intermediate Calculus	3	P - MATH 133 or equivalent, MATH 141 or equivalent
CS	Complementary Studies Group B (HSSML)*	3	-
2nd Term (Winter)		18 credits	Prerequisites/Co-requisites
CIVE 202	Construction Materials	4	P - CIVE 290
CIVE 206	Dynamics	3	P - CIVE 205 / C - MATH 262, MATH 263
CIVE 207	Solid Mechanics	4	P - CIVE 205 (or MECH 210 in special circumstances)
FACC 100	Introduction to the Engineering Profession	1	-
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
MECH 289	Design Graphics	3	-
Summer Term		2 credits	Prerequisites/Co-requisites
CIVE 210	Surveying	2	P - MECH 289
3rd Term (Fall)		15 credits	Prerequisites/Co-requisites
CCOM 206	Communication in Engineering	3	-
CIVE 208	Civil Engineering Systems Analysis	3	P - COMP 208 / C - MATH 264
CIVE 317	Structural Engineering 1	3	P - CIVE 202, CIVE 207, MECH 289
EPSC 221	General Geology	3	-
MATH 264	Advanced Calculus for Engineers	3	P - MATH 262 / C - MATH 263
4th Term (Winter)		17 credits	Prerequisites/Co-requisites
CIVE 225	Environmental Engineering	4	P - CIVE 290 / C - MATH 263
CIVE 302	Probabilistic Systems	3	P - COMP 208, MATH 262
CIVE 318	Structural Engineering 2	3	P - CIVE 317
CIVE 319	Transportation Engineering	3	P - CIVE 208, COMP 208 / C - CIVE 302
CIVE 327	Fluid Mechanics and Hydraulics	4	P - CIVE 206, MATH 264
5th Term (Fall)		14 credits	Prerequisites/Co-requisites
CIVE 311	Geotechnical Mechanics	4	P - CIVE 207
CIVE 320	Numerical Methods	4	P - COMP 208, MATH 264
CIVE 323	Hydrology and Water Resources	3	P - CIVE 302
FACC 300	Engineering Economy	3	-
6th Term (Winter)		15 credits	Prerequisites/Co-requisites
CIVE 324	Sustainable Project Management	3	P - CIVE 208, FACC 300
CIVE 432	Technical Paper	1	P - CCOM 206
MECH 261	Measurement Laboratory	2	
CIVE xxx	Technical Complementary	3	-
CIVE xxx	Technical Complementary	3	-
CS	Complementary Studies Group A (Impact)*	3	-
7th Term (Fall)		14 credits	Prerequisites/Co-requisites
CIVE 418	Design Project	4	P - Completion of an approved set of required and complementary courses
FACC 400	Engineering Professional Practice	1	P - FACC 100, FACC 250**, and 60 program credits
CIVE xxx	Technical Complementary	3	-
CIVE xxx	Technical Complementary	3	-
CIVE xxx	Technical Complementary	3	-

Technical Complementary courses are selected from an approved list given on the next page.

*The Complementary Studies (CS) courses are Impact of Technology courses (Group A) and Humanities & Social Sciences, Management Studies and Law courses (Group B). Students must take one course (3 credits) from Group A and one course (3 credits) from Group B. The curriculum above includes suggested terms during which these courses can be taken. These must be chosen from an approved list of courses/departments, found in the program list under "Complementary Studies" in the Faculty of Engineering Undergraduate section of the Programs, Courses and University Regulations publication (www.mcgill.ca/study) (see your program listing in the "Browse Academic Units & Programs" section).

**FACC 250 is not yet indicated as a prerequisite in the eCalendar course information (www.mcgill.ca/study) but it will be before FACC 400 is taken.

Students are responsible for satisfying pre-/co-requisites and verifying with their department that they are meeting the requirements of their program.

Recommended Sequence of Courses for the 8-Semester Program (139 Credits)

Note: For the 8 complementary courses, choose 5 technical complementary courses (2 of which are Design Technical Complementary Courses), 2 Humanities/Social Sciences, and 1 Impact of Technology courses. The later 3 courses can be taken in summer to reduce course load during the year. * CIVE 432 may be taken in Semester 8 after completing a minimum of 2 technical complementary courses.

SEMESTER 1 (15 cr)			SEMESTER 2 (18 cr)		
CHEM 110	General Chemistry 1	4 cr	CHEM 120	General Chemistry 2	4 cr
MATH 140	Calculus 1	3	MATH 141	Calculus 2	4
MATH 133	Vectors, Matrices & Geometry	3	PHYS 142	Electromagnetism & Optics	4
PHYS 131	Mechanics & Waves	4	xxxx-xxx	Humanities/Social Sciences #1	3
FACC 100	Intro Engineering Profession	1	xxxx-xxx	Impact of Technology	3
SEMESTER 3 (18 cr)			SEMESTER 4 (17 cr)		
EPSC 221	General Geology	3 cr	MATH 263	Ordinary Differential Equations and Linear Algebra	3 cr
MATH 262	Intermediate Calculus	3			
CIVE 205	Statics	3	CIVE 202	Construction Materials	4
CIVE 290	Thermodynamics & Heat Transfer	3	CIVE 206	Dynamics	3
CCOM 206	Communication in Engineering	3	CIVE 207	Solid Mechanics	4
MECH 289	Design Graphics	3	COMP 208	Computers in Engineering	3
			FACC 250	Responsibilities of the Professional Engineer	0
			SUMMER SESSION (2 cr)		
			CIVE 210C	Surveying	2 cr
SEMESTER 5 (18 cr)			SEMESTER 6 (17 cr)		
CIVE 208	Civil Engineering Systems Analysis	3 cr	CIVE 225	Environmental Engineering	4 cr
CIVE 311	Geotechnical Mechanics	4	CIVE 302	Probabilistic Systems	3
CIVE 317	Structural Engineering I	3	CIVE 327	Fluid Mechanics & Hydraulics	4
FACC 300	Engineering Economy	3	CIVE 318	Structural Engineering II	3
MATH 264	Advanced Calculus	3	CIVE 319	Transportation Engineering	3
MECH 261	Measurement Lab	2			
SEMESTER 7 (17 cr)			SEMESTER 8 (17 cr)		
CIVE 320	Numerical Methods	4 cr	CIVE 324	Sustainable Project Management	3 cr
CIVE 323	Hydrology & Water Resources	3	CIVE 418	Design Project	4
*CIVE 432	Technical Paper	1	xxxx-xxx	Complementary #3	3
xxxx-xxx	Humanities/Social Sciences #2	3	xxxx-xxx	Complementary#4	3
xxxx-xxx	Complementary #1	3	xxxx-xxx	Complementary#5	3
xxxx-xxx	Complementary #2	3	FACC 400	Engineering Professional Practice	1

Civil Engineering Curriculum – Fall 2020 (Non-CEGEP Entry, 8-Semester)

1st Term (Fall)		15 credits	Prerequisites/Co-requisites
CHEM 110	General Chemistry 1	4	P - College level mathematics and physics or permission of instructor
FACC 100	Introduction to the Engineering Profession	1	-
MATH 133	Linear Algebra and Geometry	3	P - A course in functions
MATH 140	Calculus 1	3	P - High school calculus
PHYS 131	Mechanics and Waves	4	C - Calculus course [MATH 140]
2nd Term (Winter)		18 credits	Prerequisites/Co-requisites
CHEM 120	General Chemistry 2	4	P - College level mathematics and physics or permission of instructor
MATH 141	Calculus 2	4	P - MATH 140
PHYS 142	Electromagnetism and Optics	4	P - PHYS 131 / C - MATH 141
CS	Complementary Studies Group A (Impact)*	3	-
CS	Complementary Studies Group B (HSSML) - 1*	3	-
3rd Term (Fall)		18 credits	Prerequisites/Co-requisites
CCOM 206	Communication in Engineering	3	-
CIVE 205	Statics	3	-
CIVE 290	Thermodynamics and Heat Transfer	3	-
EPSC 221	General Geology	3	-
MATH 262	Intermediate Calculus	3	P - MATH 133, MATH 141
MECH 289	Design Graphics	3	-
4th Term (Winter)		17 credits	Prerequisites/Co-requisites
CIVE 202	Construction Materials	4	P - CIVE 290
CIVE 206	Dynamics	3	P - CIVE 205 / C - MATH 262, MATH 263
CIVE 207	Solid Mechanics	4	P - CIVE 205 (or MECH 210 in special circumstances)
COMP 208	Computers in Engineering	3	P - differential and integral calculus [MATH 140 and MATH 141] / C - linear algebra [MATH 133]
FACC 250	Responsibilities of the Professional Engineer	0	P - FACC 100 or BREE 250
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
Summer Term		2 credits	Prerequisites/Co-requisites
CIVE 210	Surveying	2	P - MECH 289
5th Term (Fall)		18 credits	Prerequisites/Co-requisites
CIVE 208	Civil Engineering System Analysis	3	P - COMP 208 / C - MATH 264
CIVE 311	Geotechnical Mechanics	4	P - CIVE 207
CIVE 317	Structural Engineering 1	3	P - CIVE 202, CIVE 207, MECH 289
FACC 300	Engineering Economy	3	-
MATH 264	Advanced Calculus for Engineers	3	P - MATH 262 / C - MATH 263
MECH 261	Measurement Laboratory	2	-
6th Term (Winter)		17 credits	Prerequisites/Co-requisites
CIVE 225	Environmental Engineering	4	P - CIVE 290 / C - MATH 263
CIVE 302	Probabilistic Systems	3	P - COMP 208, MATH 262
CIVE 318	Structural Engineering 2	3	P - CIVE 317
CIVE 319	Transportation Engineering	3	P - CIVE 208, COMP 208 / C - CIVE 302
CIVE 327	Fluid Mechanics and Hydraulics	4	P - CIVE 206, MATH 264
7th Term (Fall)		17 credits	Prerequisites/Co-requisites
CIVE 320	Numerical Methods	4	P - COMP 208, MATH 264
CIVE 323	Hydrology and Water Resources	3	P - CIVE 302
CIVE 432	Technical Paper	1	P - CCOM 206
CIVE xxx	Technical Complementary	3	-
CIVE xxx	Technical Complementary	3	-
CS	Complementary Studies Group B (HSSML) - 2*	3	-
8th Term (Winter)		17 credits	Prerequisites/Co-requisites
CIVE 324	Sustainable Project Management	3	P - CIVE 208, FACC 300
CIVE 418	Design Project	4	P - Completion of an approved set of required and complementary courses
FACC 400	Engineering Professional Practice	1	P - FACC 100, FACC 250**, and 60 program credits
CIVE xxx	Technical Complementary	3	-
CIVE xxx	Technical Complementary	3	-
CIVE xxx	Technical Complementary	3	-

Technical Complementary courses are selected from an approved list given on the next page.

*The Complementary Studies (CS) courses are Impact of Technology courses (Group A) and Humanities & Social Sciences, Management Studies and Law courses (Group B). Students must take one course (3 credits) from Group A and two courses (6 credits) from Group B. The curriculum above includes suggested terms during which these courses can be taken. These must be chosen from an approved list of courses/departments, found in the program list under "Complementary Studies" in the Faculty of Engineering Undergraduate section of the Programs, Courses and University Regulations publication (www.mcgill.ca/study) (see your program listing in the "Browse Academic Units & Programs" section).

**FACC 250 is not yet indicated as a prerequisite in the eCalendar course information (www.mcgill.ca/study) but it will be before FACC 400 is taken.

Students are responsible for satisfying pre-/co-requisites and verifying with their department that they are meeting the requirements of their program.

Complementary Studies Courses (6 or 9 Credits)

Group A - Impact of Technology on Society

As part of the Civil Engineering program, you are required to take one 3-credit course on the Impact of Technology on Society (Group A). Please select one course from the following list:

ANTH 212 (3) Anthropology of Development
BTEC 502 (3) Biotechnology Ethics and Society
CIVE 469 (3) Infrastructure and Society
ECON 225 (3) Economics of the Environment
ECON 347 (3) Economics of Climate Change
ENVR 201 (3) Society, Environment and Sustainability
GEOG 200 (3) Geographical Perspectives: World Environmental Problems
GEOG 203 (3) Environmental Systems
GEOG 205 (3) Global Change: Past, Present and Future
GEOG 302 (3) Environmental Management 1
MGPO 440* (3) Strategies for Sustainability
PHIL 343 (3) Biomedical Ethics
RELG 270 (3) Religious Ethics and the Environment
SOCI 235 (3) Technology and Society
SOCI 312 (3) Sociology of Work and Industry
URBP 201 (3) Planning the 21st Century City

* Note: Management courses have limited enrolment and registration dates. See Important Dates at http://www.mcgill.ca/importantdates/

Group B - Humanities and Social Sciences, Management Studies and Law

The number of Group B courses required will depend on whether you are in the 7 or 8 semester program. If you are in the 7-semester program, you must take one 3-credit course from this category. If you are in the 8-semester program, you must take two of these courses. Language courses are not accepted to satisfy the Complementary Studies Group B requirement.

Please select one or two course(s) from the following list:

Anthropology (ANTH)
Economics (any 200- or 300-level course excluding ECON 227, and ECON 337)
History (HIST)
Philosophy (excluding PHIL 210 and PHIL 310)
Political Science (POLI)
Psychology (excluding PSYC 204 and PSYC 305, but including PSYC 100)
Religious Studies (RELG) *(excluding courses that principally impart language skills, such as Sanskrit, Tibetan, Tamil, New Testament Greek, and Biblical Hebrew) ****
School of Social Work (SWRK)
Sociology (excluding SOCI 350)

OR one of the following:

ARCH 528 (3) History of Housing
BUSA 465 (3) Technological Entrepreneurship*
CLAS 203 (3) Greek Mythology
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 400 (3) Environmental Thought
FACC 220 (3) Law for Architects and Engineers
FACC 500 (3) Technology Business Plan Design
FACC 501 (3) Technology Business Plan Project
HISP 225 (3) Hispanic Civilization 1
HISP 226 (3) Hispanic Civilization 2
INDR 294 (3) Introduction to Labour-Management Relations*
INTG 201 (3) Integrated Management Essentials1**
INTG 202 (3) Integrated Management Essentials 2 **
MATH 338 (3) History and Philosophy of Mathematics
MGCR 222 (3) Introduction to Organizational Behavior*
MGCR 352 (3) Marketing Management 1*
ORGB 321 (3) Leadership*
ORGB 423 (3) Human Resources Management*

* Note: Management courses have limited enrolment and registration dates. See Important Dates at http://www.mcgill.ca/importantdates/

** Note: INTG 201 and INTG 202 are not open to students who have taken certain Management courses. Please see the INTG 201 and INTG 202 course information for a list of these courses.

*** If you are uncertain whether or not a course principally imparts language skills, please see an adviser in the McGill Engineering Student Centre (Frank Dawson Adams Building, Room 22) or email an adviser.

Technical Complementary Courses and Prerequisites/Co-requisites

A minimum of six credits to be selected from List A and the remaining nine credits to be selected from List A and/or B or from other suitable undergraduate or 500-level courses.

List A - Design Technical Complementaries

6-15 credits from the following:

		Credits	Prerequisites/Co-requisites
CIVE 416	Geotechnical Engineering	3	P - CIVE 311
CIVE 421	Municipal Systems	3	P - CIVE 327
CIVE 428	Water Resources and Hydraulic Engineering	3	P - CIVE 327
CIVE 430	Water Treatment and Pollution Control	3	P - CIVE 225, CIVE 327
CIVE 440	Traffic Engineering and Simulation	3	P - CIVE 319
CIVE 462	Design of Steel Structures	3	P - CIVE 318
CIVE 463	Design of Concrete Structures	3	P - CIVE 318

List B - General Technical Complementaries

0-9 credits from the following:

		Credits	Prerequisites/Co-requisites
CIVE 433	Urban Planning	3	-
CIVE 446	Construction Engineering	3	P - CIVE 208, FACC 300
CIVE 451	Geoenvironmental Engineering	3	P - CIVE 225, CIVE 311
CIVE 460	Matrix Structural Analysis	3	P - CIVE 206, CIVE 317
CIVE 470	Undergraduate Research Project	3	P - 60 program credits
CIVE 512	Advanced Civil Engineering Materials	3	P - CIVE 202
CIVE 514	Structural Mechanics	3	P - CIVE 207 and instructor permission
CIVE 520	Groundwater Hydrology	3	P - CIVE 311, CIVE 323
CIVE 521	Nanomaterials and the Aquatic Environment	3	P - (CHEE 315 or CIVE 225 or MIME 356), (CHEE 310 or CIVE 430 or CHEM 233) or permission of instructor
or CHEE 521	Nanomaterials and the Aquatic Environment	3	
CIVE 527	Renovation and Preservation: Infrastructure	3	P - CIVE 202, CIVE 318
CIVE 540	Urban Transportation Planning	3	P - CIVE 319 or instructor permission
CIVE 542	Transportation Network Analysis	3	P - CIVE 208
CIVE 546	Selected Topics in Civil Engineering 1	3	P - Permission of instructor
CIVE 550	Water Resources Management	3	P - CIVE 323 or equivalent
CIVE 551	Environmental Transport Processes	3	P - CIVE 225 or instructor permission
CIVE 555	Environmental Data Analysis	3	P - CIVE 302 or instructor permission
CIVE 557	Microbiology for Environmental Engineering	3	P - CIVE 225 or instructor permission
CIVE 558	Biomolecular Techniques for Environmental Engineering	3	P - Permission of instructor
CIVE 560	Transportation Safety and Design	3	P - CIVE 319
CIVE 561	Urban Activity, Air Pollution, and Health	3	-
CIVE 572	Computational Hydraulics	3	P - CIVE 327 or equivalent
CIVE 573	Hydraulic Structures	3	P - CIVE 323, CIVE 327
CIVE 574	Fluid Mechanics of Water Pollution	3	P - CIVE 327 or equivalent
CIVE 577	River Engineering	3	P - CIVE 428 or instructor permission
CIVE 584	Mechanics of Groundwater Flow	3	P - CIVE 311 or instructor permission

Last update: April 30, 2019

For the official program listing, see the *Programs, Courses and University Regulations* publication (www.mcgill.ca/study).

Selecting Complementary Courses in the Civil Engineering Program

To complete the degree requirements, various technical complementary and non-technical complementary courses must be taken.

TECHNICAL COMPLEMENTARY COURSES (15 credits)

The 15 credits of technical complementary courses can be chosen to allow specialization in the following sub-areas in Civil Engineering:

- Environmental Engineering
- Geotechnical Engineering
- Hydraulics and Fluid Mechanics
- Materials Engineering
- Structural Engineering
- Transportation Engineering
- Water Resources Engineering

For each area, a brief description of the specialization and its professional practice, together with required and recommended technical complementary courses can be found at: Course listing search http://www.mcgill.ca/civil/undergrad/courses

Out of a total of 15 credits of Technical Complementary courses a minimum of 6 credits of Design Technical Complementary courses have to be chosen from the following list:

CIVE 416	Winter	Geotechnical Engineering (3 cr)
CIVE 421	Winter	Municipal Systems (3 cr)
CIVE 428	Fall	Water Resources & Hydraulics Eng. (3 cr)
CIVE 430	Fall	Water Treatment & Pollution Control (3 cr)
CIVE 440	Fall	Traffic Engineering and Simulation(3)
CIVE 462	Fall	Design of Steel Structures (3 cr)
CIVE 463	Winter	Design of Concrete Structures (3 cr)

Other courses suitable for Civil Engineering students are SEAD 510, SEAD 515, SEAD 520, SEAD 540 and SEAD 550: students can only take one of these course.

It should be noted that not all technical complementary courses are offered each year. Please consult MINERVA to establish which courses are offered in a particular semester.

Minor Programs

In addition to a choice of technical complementary courses, a student may opt to take one of the Minor Programs offered to Engineering students.

- Bachelor of Engineering (B.Eng.) - Minor Arts (24 Credits)
- Bachelor of Engineering (B.Eng.) - Minor Computer Science
- Bachelor of Engineering (B.Eng.) - Minor Construction Engineering and Management (24 Credits)
- Bachelor of Engineering (B.Eng.) - Minor Economics (18 Credits)
- Bachelor of Engineering (B.Eng.) - Minor Environmental Engineering (21 Credits)
- Bachelor of Commerce (B.Com.) - Minor Management (For Non-Management Students) (18 Credits)
- Bachelor of Engineering (B.Eng.) - Minor Materials Engineering (24 Credits)
- Bachelor of Engineering (B.Eng.) - Minor Mathematics (18 Credits)
- Bachelor of Engineering (B.Eng.) - Minor Technological Entrepreneurship (18 Credits)
- Bachelor of Music (B.Mus.) - Minor Musical Applications of Technology (18 Credits)
- Bachelor of Music (B.Mus.) - Minor Musical Science and Technology (18 Credits)

For most Minor programs, some technical complementary courses may be included in the requirements for completing the Minor. The Minor in Construction Engineering and Management, Minor in Environmental Engineering and Minor in Management and the Minor in Technological Entrepreneurship are particularly appropriate Minors for Civil Engineering students.
http://www.mcgill.ca/civil/undergrad/minor

Exchange Programs

Students interested in applying for Semester/Year Abroad Student Exchange Programs should contact the Faculty of Engineering Student Advisor (MESC, FDA Rm 22) for further information. Students are required to complete 30 credits of Departmental core courses before going on an exchange program. In all cases, students should consult with their advisor to determine which courses taken during an exchange program may be considered for advance credits or exemption.

Professors and Areas of Specialization

http://www.mcgill.ca/civil/faculty/

Environmental			
Dominic Frigon	dominic.frigon@mcgill.ca	ENGMD 569B	Environmental Biotechnology
Subhasis Ghoshal	subhasis.ghoshal@mcgill.ca	ENGMD 569C	Geoenvironmental and Environmental Engineering
Mary Kang	mary.kang@mcgill.ca	ENGMD 475D	Hydrology and Environmental
Jinxia Liu	jinxia.liu@mcgill.ca	ENGMD 475C	Environmental Engineering
Stephanie Loeb	Stephanie.loeb@mcgill.ca		Environmental Engineering
James A. Nicell	james.nicell@mcgill.ca	ENGMD 378	Environmental Engineering
Laxmi Sushama	laxmi.sushama@mcgill.ca	ENGMD 475E	Sustainable Engineering and Design
Ronald Gehr	ronald.gehr@mcgill.ca	ENGMD 569E	Environmental Engineering
Geotechnical			
Mohamed A. Meguid	mohamed.meguid@mcgill.ca	ENGMD 487	Geotechnical Engineering
Patrick Selvadurai	patrick.selvadurai@mcgill.ca	ENGMD 479	Applied Mathematics, Geomechanics
Structural			
Andrew Boyd	andrew.boyd@mcgill.ca	ENGMD 482	Infrastructure Materials
Luc E. Chouinard	luc.chouinard@mcgill.ca	ENGMD 491	Structural Engineering, Risk Analysis
Ghyslaine McClure	ghyslaine.mcclure@mcgill.ca	ENGMD 475F	Structural Engineering
M. Saeed Mirza	saeed.mirza@mcgill.ca	ENGMD 480	Structural Engineering and Rehabilitation
Denis Mitchell	denis.mitchell@mcgill.ca	ENGMD 493	Behaviour and Design of Concrete Structures
Colin A. Rogers	colin.rogers@mcgill.ca	ENGMD 475A	Structural Steel Engineering
Yixin Shao	yixin.shao@mcgill.ca	ENGMD 475B	Civil Engineering Materials and their Structural Applications

Yazhou (Tim) Xie	tim.xie@mcgill.ca	ENGMD 483	Earthquake, Bridge, and Structural Engineering
Transportation			
Luis Miranda-Moreno	luis.miranda-moreno@mcgill.ca	ENGMD 278A	Transportation Engineering
Lijun Sun	lijun.sun@mcgill.ca	ENGMD 278C	Transportation Engineering
Water Resources & Hydraulics			
Vincent H. Chu	vincent.chu@mcgill.ca	ENGMD 485	Fluid Mechanics and Hydraulics
Susan Gaskin	susan.gaskin@mcgill.ca	ENGMD 488	Environmental Hydraulics and Water Resources
Van Thanh V. Nguyen	van.tv.nguyen@mcgill.ca	ENGMD 489	Hydrology and Water Resources Management