



CIVIL ENGINEERING

CURRICULUM UPDATES

CIVIL ENGINEERING

RECAP

Addition to Technical Electives: CIVL 4005 3.00 Wood Engineering

This course presents the fundamentals of structural wood engineering. Topics covered include an introduction of wood as a building material and a history of its use, the physical and mechanical properties of wood, the variety of contemporary structural wood products, and the design of structural wood members. Wood strength and modification factors, species, and grades are introduced. Design topics include tension and compression members, bending members, lateral load resisting members, and connections. Course content focuses heavily on wood design in the context of CSA-O86 Engineering Design in Wood and the National Building Code of Canada. An introduction to wood structural fire safety topics is included. A weekly problem analysis lab will be held where design software and measurement based technologies will be used.

Pre-requisites: LE/CIVL 3230 4.00.

CIVL 4005 3.00 will be added to the “Group A – Structures” technical elective list.

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Group D / Group B Alteration: Moving CIVL 4031 3.00 Pavement Materials and Design from Group D Transportation to Group B Geotechnical

RATIONALE

The emphasis of CIVL 4031 3.00 is on the use of soil mechanics and geotechnical engineering concepts for mechanistic design of pavement systems. One of the main pre-requisite core Year 3 courses is CIVL 3110 3.00 Soil Mechanics. The course will normally be taught by a Geotechnical faculty member. The course content is more relevant to Group B Geotechnical elective options as opposed to Group B Transportation options.

Students following 2021-2022 Academic Calendars and prior can continue to count CIVL 4031 3.00 as a Group D Transportation elective if doing so ensures they do not exceed 3 courses from the same Group.

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RATIONALE

Technical Electives: Students can follow Group A – E technical elective lists from their Academic Calendar and any subsequent Academic Calendar to meet their requirements. Students still need to follow the rules surrounding technical electives for their Calendar, e.g., a maximum of 3 electives from the same group.

Provides students with greater course selection and opportunities to learn information relevant to their field.

Students can complete a **maximum of 3** technical electives from one sub-discipline as opposed to 2.

An increase to the maximums provides students with greater course selection and opportunities to learn information relevant to their field.

Capstone Design Project: CIVL 4000 6.00 (not ENG 4000 6.00) – Pre-requisites: LE/ENG 2003 3.00, LE/ENG 3000 3.00, *All LE/CIVL 2XXX & 3XXX-level courses*

Pre-requisites reflect the required knowledge from both 2nd and 3rd year courses.

Replaced: CIVL 3250 3.00 with CIVL 3160 3.00

CIVL 3160 3.00 is essentially the same as CIVL 3250 3.00 except that it will be delivered during the Fall instead of the Winter.

Added: CIVL 3260 3.00 (previously a technical elective: CIVL 4032 3.00)

Changes in surface infrastructure to deliver connected and autonomous vehicles require that all civil engineering students learn how to forecast future travel demand properly to prepare future surface infrastructure accordingly. CIVL 3260 3.00 will focus on the fundamentals behind the process of forecasting future travel demand.

Students following the 2018-2019 Academic Calendar will no longer need to complete Group F electives. Students following the 2017-2018 Academic Calendar (and prior) will continue to complete Group F electives as per their Calendar.

Corrected CIVL 3130 and CIVL 3230 are 4.00 credits (not 3.00 credits).

Accurately reflects the course load and contact hours.

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Scenario	CIVL 3250 (W)	CIVL 3160 (F)	CIVL 3260 (W)	Group "F" Elective	Remediation
1	Not taken or Failed	Not taken	Not taken	No group F elective taken	<ul style="list-style-type: none"> Take CIVL 3160 and CIVL 3260. No need to take CIVL 3250 (no longer available) or group F elective (retired).
2	Not taken or Failed	Not taken	Not taken	Group F elective already completed	<ul style="list-style-type: none"> Take CIVL 3160. No need to take CIVL 3260.
3	Passed	Not taken	Not taken	No group F elective taken	<ul style="list-style-type: none"> Take CIVL 3260 if schedule allows. No need to take CIVL 3160 or Group F. If students cannot take CIVL 3260, a group F elective can be taken.
4	Passed	Not taken	Not taken	Group F elective already completed	<ul style="list-style-type: none"> No remediation required.
5	Passed	Not taken	Passed	CIVL 3260 considered an elective	<ul style="list-style-type: none"> No remediation required.

Civil students following the **2018-2019 Academic Calendar** must complete CIVL 3260.

Civil students following the **2017-2018 Academic Calendar and prior** can complete CIVL 3160/CIVL 3250 and a Group "F" elective. If they choose, they can take CIVL 3260 as a Group "D" elective or CIVL 3260 may be taken in lieu of a group "F" elective.

PREPARING FOR YOUR **TWO-WEEK** SUMMER SURVEY COURSE

RECAP

- **No longer required:** ESSE 2620 and ESSE 2630
- **Replacement courses:** CIVL 2160 (complete in Fall term of 2nd year) and ESSE 2635 (complete in Summer term after 2nd year)
- **Time-sensitive:**
 - ESSE 2635 is a Summer term course **2 weeks in duration**. This two-week course usually begins shortly *after* the April exam period.
 - ESSE 2635 is one of the pre-requisites to CIVL 3160. CIVL 3160 is one of the pre-requisite to CIVL 3260. CIVL 3260 is a core pre-requisite to transportation courses.
 - The ESSE 2635 > CIVL 3160 > CIVL 3260 sequence is necessary for several 4th year courses.
 - ESSE 2635 should be completed in the Summer term after 2nd year, before 3rd year.
 - Check the [Important Dates](#) website for add, drop, and withdrawal deadlines corresponding to this **special Summer term course**.

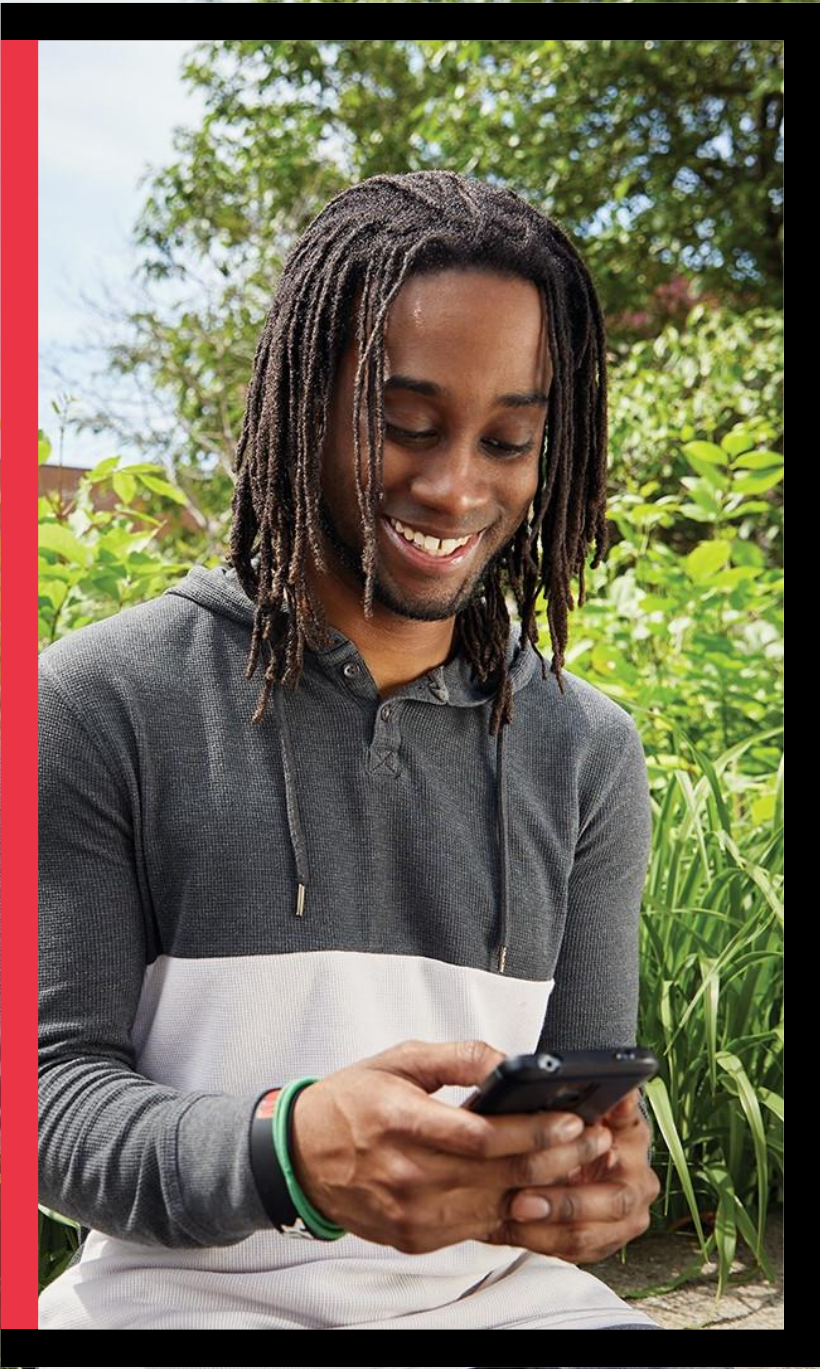
Scenario	ESSE 2620 3.00 (Fall Term)	ESSE 2630 3.00 (Summer Term)	Remediation
1	Not taken or failed	Not taken or failed	Take two new courses: CIVL 2160 and ESSE 2635
2	Not taken or failed	Passed	Take new course CIVL 2160. No need to take ESSE 2635.
3	Passed	Not taken or failed	Take new course ESSE 2635. No need to take CIVL 2160.
4	Passed	Passed	No action required. No need to take any new courses.

Co-op Work & Study Sequence Example 1

Elisa, Civil Engineering, 20 months

	Fall	Winter	Summer
Year 2	Applied to Co-op	Study term Admitted to Co-op Searched for first Co-op term	Work Period 1 ExxonMobil-Esso Canada (W1) Mine Technical Engineering Student
Year 3	Work Period 1 ExxonMobil-Esso Canada (W2) Mine Technical Engineering Student	Work Period 1 ExxonMobil-Esso Canada (W3) Mine Technical Engineering Student	Work Period 1 ExxonMobil-Esso Canada (W4) Mine Technical Engineering Student
Year 4	Study term	Study term	Work Period 2 Research Assistant, Lassonde Undergraduate Research Award-LURA (W4)
Year 5	Study term	Study term	Graduate





Co-op Work & Study Sequence Example 2

Lucas; Civil Engineering, 16 months

	Fall	Winter	Summer
Year 2	Applied to Co-op	Admitted to Co-op Searched for first Co-op term	Unsuccessful in securing 1st work term; searched for Fall start
Year 3	Work Period 1 Kenaidan (W1) Project Coordinator	Work Period 1 Kenaidan (W2) Project Coordinator	Work Period 1 Kenaidan (W3) Project Coordinator
Year 4	Study term	Study term	Work Period 2 City of Toronto (W4) Technical Trainee
Year 5	Study term	Study term	Graduate



Co-op Work & Study Sequence Example 3

Faith; Civil Engineering, 12 months

	Fall	Winter	Summer
Year 3	Applied to Co-op	Admitted to Co-op Searched for first work term	Work Period 1 Metrolinx (W1) Safety Standards & Practices Coordinator
Year 4	Study term	Work Period 2 Environment and Climate Change Canada (W2) Expert Support Environmental Assistant	Work Period 2 Environment and Climate Change Canada (W3) Expert Support Environmental Assistant
Year 5	Study term	Study term	Graduate

