

<p style="text-align: center;"><b>MANDATORY CURRICULUM REQUIREMENTS FOR ALL CIVIL ENGINEERING STUDENTS</b></p>
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### **1. Changes to the Engineering Core**

**General Education List:** Students in Civil Engineering had previously been allowed to do ACCO 220 (*Financial and Managerial Accounting*) as their General Education course. Now students must choose their General Education course from the list in Section 71.20.6 of the Calendar. *As a transitional measure, students who have completed ACCO 220 prior to September 2005 may use it as their general education course. This transitional measure may be rescinded after June 2010.*

### **2. Changes to the Civil Engineering Core**

ELEC 362 *Partial Differential Equations* has been replaced with ENGR 311 *Transform Calculus and Partial Differential Equations*. As a transitional measure students who have completed ELEC 362 prior to September 2005 may use it as a substitute for ENGR 311. In addition, students who have completed ELEC 332 or EMAT 332 prior to September 2004 may use it as a substitute for ENGR 311. *This transitional measure may be rescinded after June 2010.*

### **3. Selection of Options**

In the 2005-6 Calendar, the Civil Engineering program introduced three options: Option A-Civil Infrastructure, Option B-Environmental, and Option C-Information Technology.

*All students currently enrolled must select an option and satisfy its requirements. As a transitional measure students who enrolled in 2004-5 or earlier will be allowed to complete their program without selecting an option as long as they graduate by June 2006.*

### **4. Civil Engineering Technical Electives for those not selecting an option**

- a. The total length of the program in the 2005-6 Calendar is **120 credits**. Students must take sufficient technical electives to obtain that total number of program credits. Since the total number of required credits in the 2004-5 Calendar was 119.5 credits, as a transitional measure, students who graduate in June 2006 or earlier may graduate with that smaller number of credits.
- b. Students not selecting an option may select their electives among all of the technical electives offered by the program.
- c. CIVI 440 *Computer Applications in Civil Engineering Practice* (3 credits) has been added to the list of technical electives.

### **5. Civil Engineering Technical Electives for those selecting Option A-Civil Infrastructure**

- a. The total length of the program in the 2005-6 Calendar is **120 credits**. Students must take sufficient technical electives to obtain that total number of program credits. Since the total number of required credits in the 2004-5 Calendar was 119.5 as a transitional measure, students who graduate in June 2006 or earlier may graduate with that smaller number of credits.

- b. Students may select their technical electives from the following list:

Course Number	Course Title	Credits
<i>BCEE 452</i>	<i>Matrix Analysis of Structures</i>	<i>3.00</i>
<i>BCEE 455</i>	<i>Introduction to Structural Dynamics</i>	<i>3.00</i>
<i>CIVI 435</i>	<i>Foundation Design</i>	<i>3.50</i>
<i>CIVI 437</i>	<i>Advanced Geotechnical Engineering</i>	<i>3.00</i>
<i>CIVI 453</i>	<i>Design of Reinforced Concrete Structures</i>	<i>3.50</i>
<i>CIVI 454</i>	<i>Design of Steel Structures</i>	<i>3.50</i>
<i>CIVI 471</i>	<i>Highway and Pavement Design</i>	<i>3.50</i>
<i>CIVI 474</i>	<i>Transportation Planning and Design</i>	<i>3.00</i>
<i>ENGR 411</i>	<i>Special Technical Report</i>	<i>1.00</i>

- c. Students may also only use **one** course from the following list as a technical elective for this option.

Course Number	Course Title	Credits
<i>BLDG 459</i>	<i>Computer Aided Building Design</i>	<i>3.00</i>
<i>CIVI 440</i>	<i>Computer Applications in Civil Engineering Design</i>	<i>3.00</i>
<i>CIVI 464</i>	<i>Environmental Impact Assessment</i>	<i>3.00</i>
<i>CIVI 467</i>	<i>Air Pollution and Emission Control</i>	<i>3.00</i>
<i>CIVI 469</i>	<i>Geo-Environmental Engineering</i>	<i>3.50</i>
<i>CIVI 483</i>	<i>Hydrology</i>	<i>3.50</i>
<i>CIVI 484</i>	<i>Hydraulic Engineering</i>	<i>3.50</i>

## **6. Civil Engineering Technical Electives for those selecting Option B-Environmental**

- a. The total length of the program in the 2005-6 Calendar is **120 credits**. Students must take sufficient technical electives to obtain that total number of program credits. Since the total number of required credits in the 2004-5 Calendar was 119.5 *as a transitional measure, students who graduate in June 2006 or earlier may graduate with that smaller number of credits.*
- b. Students may select their technical electives from the following list:

Course Number	Course Title	Credits
<i>CIVI 464</i>	<i>Environmental Impact Assessment</i>	<i>3.00</i>
<i>CIVI 465</i>	<i>Water Pollution and Control</i>	<i>3.50</i>
<i>CIVI 466</i>	<i>Engineering Aspects of Chemical and Biological Processes</i>	<i>3.00</i>
<i>CIVI 467</i>	<i>Air Pollution and Emission Control</i>	<i>3.00</i>
<i>CIVI 468</i>	<i>Waste Management</i>	<i>3.00</i>
<i>CIVI 469</i>	<i>Geo-Environmental Engineering</i>	<i>3.50</i>
<i>CIVI 483</i>	<i>Hydrology</i>	<i>3.50</i>
<i>CIVI 484</i>	<i>Hydraulic Engineering</i>	<i>3.50</i>
<i>ENGR 411</i>	<i>Special Technical Report</i>	<i>1.00</i>

- c. Students may also use **one** course from the following list as a technical elective for this option.

Course Number	Course Title	Credits
<i>BLDG 459</i>	<i>Computer Aided Building Design</i>	<i>3.00</i>
<i>CIVI 437</i>	<i>Advanced Geotechnical Engineering</i>	<i>3.00</i>
<i>CIVI 440</i>	<i>Computer Applications in Civil Engineering Design</i>	<i>3.00</i>
<i>CIVI 474</i>	<i>Transportation Planning and Design</i>	<i>3.00</i>

## **7. Civil Engineering Technical Electives for those selecting Option C-Information Technology**

- a. The total length of the program in the 2005-6 Calendar is **120 credits**. Students must take sufficient technical electives to obtain that total number of program credits. Since the total number of required credits in the 2004-5 Calendar was 119.5 credits *as a transitional measure, students who graduate in June 2006 or earlier may graduate with that smaller number of credits.*
- b. Students may select their technical electives from the following list:

Course Number	Course Title	Credits
<i>BCEE 331</i>	<i>Programming for Building and Civil Engineers II</i>	<i>3.00</i>
<i>BCEE 452</i>	<i>Matrix Analysis of Structures</i>	<i>3.00</i>
<i>BLDG 459</i>	<i>Computer Aided Building Design</i>	<i>3.00</i>
<i>CIVI 440</i>	<i>Computer Applications in Civil Engineering Design</i>	<i>3.00</i>
<i>CIVI 464</i>	<i>Environmental Impact Assessment</i>	<i>3.00</i>
<i>COEN 231</i>	<i>Introduction to Discrete Mathematics</i>	<i>3.00</i>
<i>COMP 352</i>	<i>Data Structures and Algorithms</i>	<i>3.00</i>
<i>ENGR 411</i>	<i>Special Technical Report</i>	<i>1.00</i>

## **University Writing Skills Requirement**

All students must meet a University Writing Skills Requirement before completing 30 credits. Your student record will indicate if you have already met this requirement. In the past, this requirement was met by either passing the University Writing Test or by taking a sequence of English or French Courses.

Students in Engineering and Computer Science may now meet the University Writing Skills Requirement by either obtaining a grade of C- in the new course ENCS 272 Composition and Argumentation for Engineers, or by writing and obtaining C- in a challenge exam for this course. The first opportunity for ongoing students to write the challenge exam will be in late August and again in early September of 2005. **Note that ENCS 272 will generally not be counted towards a student's engineering degree.**

For further information on ENCS 272 and its challenge exam, please visit <http://www.encs.concordia.ca/scs/content/EDCT.htm>.