

June 26, 2020

Subject: Important Notes and Curriculum Changes in the 2020-2021 UG Calendar

Dear Student,

Each academic year, all students enrolled in our **Computer Engineering** program are sent a letter advising them of curriculum changes that have occurred since their entry into the program. As such, the present letter is to advise you of changes to your program that will appear in the 2020-2021 Undergraduate Calendar.

It is important to read this entire letter, as these changes may affect your selection of courses or potentially your graduation. Students must meet the requirements of their program according to the calendar of their graduating year.

This letter, as well as past ones, can be found on the following website:

<http://www.concordia.ca/ginacody/electrical-computer-eng/programs/computer-eng/bachelor/course-sequences.html>

Should you have any questions regarding this letter and any of the curriculum changes therein, please do not hesitate to contact your Undergraduate Program Assistant, Ms. Maria Fasciano:

- By email at mariaf@encs.concordia.ca;
- By phone at 514-848-2424 extension 3102; or
- In-person in room EV 5.144.

Please be reminded that you can always consult your program requirements and course descriptions by referring to the following website:

<http://www.concordia.ca/academics/undergraduate/calendar/current/sec71.html>

Please read the following pages carefully.

VERY IMPORTANT:

1. Students must have completed all 200-level courses required for their program before they can register for any 400-level course.
2. All 200-level courses within the program, taken after September 1, 2012 which are prerequisites for other courses, must be completed with a C- grade or better. A 200-level course in which a student obtained a D+ grade or lower must be repeated before attempting any course for which this 200-level course is a prerequisite.
3. Any courses that you are required to repeat due to conditional standing or readmission conditions must be completed with a grade of C- or better prior to graduation. This requirement will **NOT** be waived.
4. Students are required to graduate having met the substantial equivalent of the curriculum in force in the winter term prior to their degree conferral.
5. Students may now submit a request to write a supplemental exam, pending on meeting the requirements highlighted in section 71.10.3 of the 2020-2021 Calendar. Meeting the conditions does not guarantee the approval of the request.
6. In order to graduate, students must:
 - i. Satisfy all their program requirements;
 - ii. Be in acceptable standing in their last annual assessment; and
 - iii. Have a minimum final graduation GPA of 2.00.

The academic standings of potential graduates who have attempted less than 12 credits since their last assessment are determined on the basis that these credits constitute an extension of the last assessment period.

7. Graduation does **NOT** occur automatically, and you must apply for graduation. The application form can be found at: <http://registrar.concordia.ca/convo/gradapp.html>.

The deadlines to apply for graduation are:

- January 15th for Spring Convocation; or
 - July 15th for Fall Convocation.
8. MATH 202 is no longer required for students in the Extended Credit (ECP) or Mature Entry (MEP) programs.

Changes to the Computer Engineering Program

1. Changes to the Engineering Core

- No changes have been made to the Engineering core.

2. Computer Engineering Core

- ELEC 353 (Transmission Lines, Waves and Signal Integrity, 3.00 credits) and ELEC 321 (Introduction to Semiconductor Materials and Devices, 3.50 credits) have been removed from the Computer Engineering Core. ELEC 353 will no longer be offered.

Instead of ELEC 353 and ELEC 321 (Introduction to Semiconductor Materials and Devices, 3.50 credits), students must take two courses from a list of science courses. Students who have taken ELEC 353 can use this course as one of the two science courses in Computer Engineering core, if they graduate in Fall 2023 convocation or earlier.

Students graduating after Fall 2023 may use ELEC 353 as one of the computer engineering electives.

- COEN 320 (Introduction to Real-Time Systems, 3.00 credits) and COEN 445 (Communication Networks and Protocols, 3.50 credits) have been added to Computer Engineering Core. The impact on the four options is explained below.
 - i. Students in Avionics option had to take COEN 320 as part of their option core courses. Therefore, the impact of the above change for them is the addition of COEN 445 to Computer Engineering core. As a transitional measure, students in Avionics option who graduate in Fall 2021 convocation or earlier may graduate without taking COEN 445, and replace it with another course from Computer Engineering elective list.
 - ii. Students in Biological and Biomedical Engineering (BME) option have to take COEN 320 and COEN 445 as part of Computer Engineering core courses. As a transitional measure, students in BME option who graduate in Fall 2021 convocation or earlier may graduate without taking COEN 320 and COEN 445.
 - iii. This change does not impact students in Pervasive Computing option since they had to take COEN 320 and COEN 445 as part of their option core courses.
 - iv. This change does not impact students in General Stream option since they had to take COEN 320 and COEN 445 as part of their option core courses.
- For capstone project, students may replace COEN 490 with ENGR 490.

3. Computer Engineering Options

- **I. Avionics and Embedded Systems option:**

Avionics and Embedded Systems Option Core:

- COEN 320 is removed from option core and moved to Computer Engineering core.

Avionics and Embedded Systems Option Electives:

- The minimum required electives has become 4.00 credits.
- Either AERO 417 or ELEC 483 must be taken as elective.

- **II. Biological and Biomedical Engineering (BME) option:**

Biological and Biomedical Engineering Option Core:

- No changes have been made to the Biological and Biomedical Engineering (BME) option core.

Biological and Biomedical Engineering Option Electives:

- The minimum required electives have become 11.50 credits. Instead of two, only one science course (BIOL 367 or PHYS 260) from option electives can be used as elective. The courses BIOL 261, BIOL 266, PHYS 443 and PHYS 445 have been moved from option electives list to science electives list in Computer Engineering core.

Science courses of Computer Engineering Core and Option Electives

- Students graduating in Fall 2023 convocation or earlier should take two courses from group 1 of science courses and may take one course from group 2 of science courses. These students may consider ELEC 353 as part of group 1 or as a Computer Engineering elective.

Group 1:

BIOL 206, BIOL 261, BIOL 266, CHEM 217, CHEM 221, ELEC 321, MIAE 221, PHYS 252, PHYS 284, PHYS 367, PHYS 443, PHYS 445, BIOL 367, PHYS 260

Group 2:

BIOL 367, PHYS 260, BIOL 261, BIOL 266, PHYS 443, PHYS 445

- **III. Pervasive Computing Option:**

Pervasive Computing Option Core:

- COEN 320 and COEN 445 are removed from option core and moved to Computer Engineering core.

Pervasive Computing Option Electives:

- The minimum required electives has become 10.50 credits.
- Instead of 3.00, at least 8.00 credits must be chosen from option electives list.

- **IV. General Stream Option:**

General Stream Option Core:

- COEN 320 and COEN 445 are removed from option core and moved to Computer Engineering core.

General Stream Option Electives:

- The minimum required electives has become 17.50 credits.

4. Computer Engineering Electives

- COEN 320 and COEN 445 are removed from Computer Engineering Electives list and moved to Computer Engineering core.
- ELEC 458 (Techniques in Electromagnetic Compatibility) has been removed from Computer Engineering. Students who have taken this course up to and including winter 2020 can use it as elective.