February 28, 2023

Subject: Addendum for Curriculum Changes in the 2023-2024 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 2023-2024 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. Gulzat Demirova:

- By email at undergrad-program-assistant@ece.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 2023-2024 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: https://www.concordia.ca/students/your-sis/apply-to-graduate.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 311 Electronics I has moved from the Computer Engineering core to the Computer Engineering Elective list. Students are not required to do this course. If they do this course then it may be counted as a technical elective.
- COEN 314 Digital Electronics I has been added to the Computer Engineering core.
    - Students who have done ELEC 311 prior to May 2023 and who graduate in Spring 2025 convocation or earlier do not need to do COEN 314.
    - All other students must complete COEN 314.

- COEN 490 Capstone Computer Engineering Design Project has changed from 4.0 to 6.0 credits. Students will receive the number of credits for this course that it had in the semester they did it. Student must complete enough elective courses so that the total credits from the Engineering Core, Computer Engineering core and Computer Engineering electives is 120 credits.
- The number of credits for SOEN 341 Software Process and Practices has changed from 3.0 to 4.0. Students will receive the number of credits for this course that it had in the semester they did it. Student must complete enough elective courses so that the total of their Engineering Core, Computer Engineering core and Computer Engineering electives is 120 credits.
- The six credits of science electives required in the core has been changed. For reference students had been required to complete six credits from courses on the list in Table 1

Table 1: Science Electives: Computer Engineering

BIOL 206 Elementary Genetics (3.00)
BIOL 261 Molecular and General Genetics (3.00)
BIOL 266 Cell Biology (3.00)
CHEM 217 Introductory Analytical Chemistry I (3.00)
CHEM 221 Introductory Organic Chemistry I (3.00)
ELEC 321 Introduction to Semiconductor Materials and Devices (3.50)
MIAE 221 Materials Science (3.00)
PHYS 252 Optics (3.00)
PHYS 284 Introduction to Astronomy (3.00)
PHYS 367 Modern Physics and Relativity (3.00)
PHYS 443 Quantitative Human Systems Physiology (3.00)
PHYS 445 Principles of Medical Imaging (3.00)

- Students who, by May 2023, have completed one or two courses from the list in Table 1 may count those courses as Computer Engineering electives toward the 120 credits needed for their degree provided that they graduate in Spring 2028 convocation or earlier.
- For students who attended CEGEP and have completed two of the three courses listed in Table 2, but haven't taken any courses in Table 1 prior to May 2023, they should replace these two science elective courses with credits from the Computer Engineering elective list.

Table 2: Natural Science Courses from CEGEP

CEGEP	**Concordia**	**Credits**
Biology 301, 101-NYA	BIOL 201 Introductory Biology or BIOL 202 General Biology I	3
202-201 or 202-NYB	CHEM 206 Chemistry of Solutions	3
203-301 or 203-302 or 203-NYC	PHYS 206 Waves, Optics and Modern Physics	3

- For students, who attended CEGEP but did not complete two of the three courses listed in Table 2, must do six credits of science electives which includes any courses from Table 1 that were taken prior to May 2023, and any courses from Table 3 which is the Natural Science Elective list given in Section 71.20.2. Science courses that they take to fulfill this requirement count as part of the 120 credits needed for the degree.

Table 3: Natural Science Elective list from 71.20.2

BIOL 201 Introductory Biology (3.00)
BIOL 202 General Biology (3.00)
BIOL 206 Elementary Genetics (3.00)
BIOL 261 Molecular and General Genetics (3.00)
BIOL 266 Cell Biology (3.00)
CHEM 206 General Chemistry (3.00)
CHEM 217 Introductory Analytical Chemistry I (3.00)
CHEM 221 Introductory Organic Chemistry I (3.00)
GEOL 206 Earthquakes, Volcanoes, and Plate Tectonics (3.00
GEOL 208 The Earth, Moon and the Planets (3.00)
PHYS 252 Optics (3.00)
PHYS 260 Introductory Biophysics (3.00)
PHYS 273 Energy and the Environment (3.00)
PHYS 284 Introduction to Astronomy (3.00)
PHYS 367 Modern Physics and Relativity (3.00)
PHYS 385 Astrophsic (3.00)
PHYS 443 Quantitative Human Systems Physiology (3.00)
PHYS 445 Principles of Medical Imaging (3.00)

- Students, who were admitted as ECP/MEP students must do six credits of science electives which includes any courses from Table 1 that were taken prior to May 2023, and any

courses from Table 3 which is the Natural Science Elective list given in Section 71.20.2. Science courses that they take to fulfill this requirement count as part of the 120 credits needed for the degree.

- Students who did BIOL 357 Molecular Biology prior to May 2023 may use it as a science course. If this is done, then BIOL 357 will count toward the 120 credits needed for their degree.

3. Computer Engineering Options

- As of May 2023, the "Biological and Biomedical Engineering (BME) " option is removed from Computer Engineering Options. As a transitional measure, students who are enrolled in this option as of April 2023 may remain in the option if they graduate in **Spring 2024** convocation or earlier. Students whose convocation is after Spring 2024 may not graduate with the "Biological and Biomedical (BME)" option.
- As of May 2023, the "Pervasive Computing" option is removed from Computer Engineering Options. As a transitional measure, students who are enrolled in this option as of April 2023 may remain in the option if they graduate in **Spring 2024** convocation or earlier. Students whose convocation is after Spring 2024 may not graduate with the "Pervasive Computing" option.

4. Computer Engineering Electives

- Students must take enough courses from the Computer Engineering elective list such that the total number of credits that they have from the Engineering Core, the Computer Engineering Core and the Computer Engineering Elective list is 120 credits.
- BIOL 367 Molecular Biology was on the elective list of the Biological and Biomedical Engineering (BME) option. Students who were in this option prior to April 2023, and who by May 2023 have already done BIOL 367 and two science courses from the list in Table 1, may exceptionally count all of these courses toward the 120 credits of their degree provided they graduate in Spring 2028 convocation or earlier. Students in this situation cannot count PHYS 260 toward the 120 credits of their degree.
- PHYS 260 Introductory Biophysics was on the elective list of the Biological and Biomedical Engineering (BME) option. Students who were in this option prior to April 2023, and who by May 2023 have already done PHYS 260 and two science courses from the list in Table 1, may exceptionally count all of these courses toward the 120 credits of their degree provided they graduate in Spring 2028 convocation or earlier. Students in this situation cannot count BIOL 367 toward the 120 credits of their degree.
- The number of credits for COEN 413 Hardware Functional Verification has changed from 3.0 to 3.5. Students will receive the number of credits for this course that it had in the semester they did it. Student must complete enough elective courses so that the total of their Engineering Core, Electrical Engineering core and Electrical Engineering electives is 120.
- COEN 415 Digital Electronics has been removed from the Computer Engineering Elective list. Students who did this course prior to May 2023 may count it toward the 120 credits of their degree provided they graduate by Spring 2028 convocation or earlier.
- COEN 414 Digital Electronics II has been added to the Computer Engineering Elective list. Note that students who have already done COEN 415 Digital Electronics may not receive credit for

COEN 414.

- ELEC 311 Electronics I has been added to the Computer Engineering elective list
- ELEC 321 Introduction to Semiconductor Materials and Devices has been added to the Computer Engineering Elective list.
- The number of credits for SOEN 342 Software Requirements and Deployment has changed from 3.0 to 4.0. Students will receive the number of credits for this course that it had in the semester they did it. Student must complete enough elective courses so that the total of their Engineering Core, Computer Engineering core and Computer Engineering electives is 120 credits.
- The number of credits for SOEN 343 Software Architecture and Design has changed from 3.0 to 4.0. Students will receive the number of credits for this course that it had in the semester they did it. Student must complete enough elective courses so that the total of their Engineering Core, Computer Engineering core and Computer Engineering electives is 120 credits.
- A new course, ELEC 447 Video Processing and Recognition has been added to the Computer Engineering elective list.