ENGR – Engineering Certificate

University Arts and Science

Effective Term & Year: Fall 2023
Program Outline Review Date: 2028-04-01

Program Area: Math and Sciences

Description:

Career paths in engineering include civil engineering (structures), mechanical engineering (machines), electrical and computer engineering (circuits and software), chemical and biological engineering (chemical and biochemical processes), engineering physics (applied physics in the design of new devices), and many more. In general, engineering is for students who are interested in the physical structures and systems in our modern world. Their work involves the analysis, design, planning, construction and maintenance of these structures and systems for reliable and safe use.

Program Information:

The COTR Engineering Certificate follows the BC Common First Year Engineering Curriculum agreement (CFYEC 2020). The COTR Engineering Certificate prepares students to apply for competitive admission to Year 2 programs in BC. Some Engineering streams may have specific requirements that are different than the Common First Year Engineering Curriculum. Students should always contact the receiving institution for details on course requirements and course transfer.

Credentials Granted:

Engineering Certificate

Minimum Course Grade: A minimum grade of C

Program Average: A minimum grade point average of 4.0/10 (C+ average)

Delivery Methods: On-Campus (Face-to-Face), Online

Credits: 36

Admission Requirements:

- Complete all of the following
  - Earned a minimum grade of C+ (65%) in at least 1 of the following:
    - ENST 12 – English Studies 12
    - ENFP 12 – English First Peoples 12
    - ENGL090 – English – Provincial Level
  - Earned a minimum grade of C+ (65%) in each of the following:
    - PHYS090 – Physics – Provincial Level (3)
    - CHEM090 – Chemistry – Provincial Level (3)
  - Complete 1 of the following
    - Earned a minimum grade of C+ (65%) in at least 1 of the following:
      - MATH090 – Mathematics – Provincial Level
      - MATH100 – Pre-Calculus (3)
    - Earned a minimum grade of C+ (65%) in each of the following:
      - PREC 11 – Pre-Calculus 11
      - PREC 12 – Pre-Calculus 12
    - Or Pre-Calculus 12 and a minimum of 75% in Calculus 12.

Program Completion Requirements:

Year 1
36 Total Credits

- Complete all of the following

  Fall Semester
  - Complete all of the following
    - Completed the following:
      - ENGR101 – Engineering Design 1 (3)
      - CHEM115 – Chemistry for Engineering (3)
      - CSCI105 – Introduction to Programming in the C and C++ Language (3)
      - MATH103 – Differential Calculus (3)
      - PHYS103 – Introduction to Physics 1 (3)
    - CHEM 101 and CHEM 102 may be taken as an alternative to CHEM 115 for programs that require two semesters of Chemistry.

  Winter Semester
  - Completed the following:

- ENGL100 – English Composition (3)
- MATH104 – Integral Calculus (3)
- MATH221 – Elementary Linear Algebra (3)
- PHYS104 – Introduction to Physics 2 (3)
- ENGR141 – Engineering Statics and Dynamics (3)

Spring Semester

- Completed the following:
  - COMC102 – Advanced Professional Communication (3)
  - ENGR102 – Engineering Design 2 (3)

Grand Total Credits: 36

Program Completion Requirements Notes:

Students are required to maintain a minimum course grade of C (60%) and an average course grade of C+ in all program courses that contribute to the Engineering certificate.

Flexible Assessment: Yes

In some cases students may be able to apply for recognition of prior learning outside the classroom. This flexible assessment process provides equivalent course credit. It is a rigorous process that may include external evaluation, worksite assessment, demonstration, standardized test, self-assessment, interview, products/portfolio, and challenge exam, or other measures as appropriate. Tuition fees apply. Contact an education advisor for more information.

Program Transfer Credit:

For information about block transfer agreements between programs in British Columbia, Alberta, and elsewhere, please visit http://www.cotr.bc.ca/transfer.

To minimize transfer issues, check with an academic advisor at the institution that will receive the transfer credits.

Academic Policies:

College of the Rockies policies related to courses can be found at

https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.4.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Program Changes:

Information contained in this program outline is correct at the time of publication. Courses and course content may be revised from time to time based on changing educational, employment and marketing needs. The timetable may also be revised.

Course Descriptions: Refer to Course Outlines – https://outlines.cotr.bc.ca/course/