

Engineering First-Year: Certificate

Faculty of Science and Horticulture	kpu.ca/science
Program Type	Undergraduate
Credential Granted	Certificate
Offered At	Richmond Surrey
Start Date(s)	September
Intake Type	Limited intake
Format	Full-time
Instructional Cycle	Semester-based
Curriculum Effective Date	01-Sep-2011
How to Apply	www.kpu.ca/admission

DESCRIPTION

Engineering First-Year at KPU is a two-semester program designed for well-prepared students to meet the requirements for direct transfer to the second-year of an engineering degree program.

KPU's Engineering First-Year program includes many of the courses and topics common to the first-year of engineering degree programs at UBC, UVic and SFU.

Transfer to UBC:

The KPU program most closely resembles UBC's first-year engineering curriculum. Successful completion of the KPU program with a sufficiently high GPA may qualify the student for UBC's second-year Engineering Transfer admissions guarantee. Please see the UBC Engineering website for specific details on engineering transfer.

Transfer to UVic:

Students that successfully complete the KPU program with a sufficiently high GPA may be considered for admission to second year on an equal footing with 1st year UVic engineering students. Please see the UVic Engineering website for specific details on engineering transfer.

Transfer to SFU:

Students that successfully complete the KPU program with a sufficiently high GPA may be eligible to transfer to second-year engineering at SFU. However, there will be first-year courses specific to the SFU engineering programs that students may need to complete at SFU. Please see the SFU Engineering website for specific details on engineering transfer.

Students must still apply formally for admission to the destination university as transfer from KPU is not automatic, nor guaranteed. Conditions for transfer are set by the receiving institution. Details must be confirmed by the student. For information about transfer of credit amongst institutions in B.C. and to see how individual courses transfer, go to the BC Transfer Guide bctransferguide.ca

ADMISSION REQUIREMENTS

In addition to the Faculty's Admission Requirements, which consist of KPU's undergraduate English Proficiency Requirement, the following program admission requirements apply:

- English 12 (or equivalent) with a minimum grade of B
- Principles of Physics 12 (or equivalent) with a minimum grade of C
- Chemistry 12 (or equivalent) with a minimum grade of C+
- Principles of Mathematics 12 or Pre-calculus 12 (or equivalent) with a minimum grade of B

On 24 October 2016 a change to the admission requirements for this program was approved by Senate. Effective September 2017 the English requirement above will be removed, and the mathematics requirement will be replaced with *Level A1 as defined in the Math Alternatives Table*. This change will appear in the 2017-18 University Calendar to be published in June 2017.

Only those applicants who meet all of the program's admission requirements, as outlined above, will be considered for admission into the Engineering First-Year program. Meeting the criteria does not guarantee admission into the program. Up to 50 applicants will be selected using the highest cumulative GPA from English, mathematics, chemistry and physics courses required for admission

Students who are not selected, or who do not meet the Engineering First-Year admissions requirements, or who wish to study part-time, are advised that alternate pathways exist for engineering transfer at KPU. These students are encouraged to visit the Department of Physics and Engineering homepage, or see an Academic Advisor, for information on these alternate pathways of engineering transfer.

CONTINUANCE REQUIREMENTS

The Engineering First-Year program is a two-semester program and students admitted to the program but unable to complete the program requirements within two semesters will be re-classified as undeclared Faculty of Science and Horticulture students.

CURRICULAR REQUIREMENTS

This certificate requires 40 credits in university level studies including:

All of the following:

Semester 1 - Fall

APSC 1124	Introduction to Engineering	1 credits
APSC 1151	Introduction to Engineering Graphics	3 credits
CHEM 1154	Chemistry for Engineering	4 credits
CPSC 1103	Introduction to Computer Programming I	3 credits
ENGL 1100	Introduction to University Writing (or another 1100 level ENGL course)	3 credits
MATH 1120	Differential Calculus	3 credits
PHYS 1120	Physics for Physical and Applied Sciences I	4 credits

Semester 2 - Spring

APSC 1299	Introduction to Microcontrollers	3 credits
MATH 1152	Matrix Algebra for Engineers	3 credits
MATH 1220	Integral Calculus	3 credits
PHYS 1170	Mechanics I	3 credits
PHYS 1220	Physics for Physical and Applied Sciences II	4 credits
One Complementary Studies elective (see below).		3 credits

Complementary Studies Electives

Most social science and humanities courses will meet the requirements of this 3-credit elective for UBC; UVic and SFU have somewhat restrictive lists of suitable courses. This includes the disciplines of Anthropology, Human Geography, History, Humanities, Philosophy, Political Science, Psychology and Sociology. The elective course must deal with some of the central issues, methodologies and thought processes of the discipline, and must not be mathematics or science based. Basic language courses (particularly mother tongue), physical geography and geology, statistics, computer science or studio/performance courses in the fine arts or music are not normally judged as satisfying the complementary elective requirement.

A second English course at the 1100 level would also meet the complementary elective requirement. In fact, for students who have not completed a minimum of five years of study in an English school in Canada or the equivalent in another country where English is the principal language, 6 credits (2 courses) of English 1100 level courses at KPU that transfer to UBC would satisfy both the complementary elective requirement and the English language requirement for admission to UBC. To confirm the transferability of the complementary elective requirement (or the language requirement), it is always advisable to contact the university in question.

Students planning to transfer to UVic should take CMNS 1110 as their complementary studies elective.

CREDENTIAL AWARDED

Upon successful completion of this program, students are eligible to receive a **Certificate in Engineering**.