

# CERTIFICATE IN ENGINEERING

## At a Glance

### Faculty

[www.kpu.ca/science](http://www.kpu.ca/science) (<http://www.kpu.ca/science/>)

### Area of Study:

[www.kpu.ca/engineering](https://www.kpu.ca/engineering/) (<https://www.kpu.ca/engineering/>)

### Academic Level:

Undergraduate

### Credential Granted:

Certificate

### Start Date:

Fall (September)

### Intake Type:

- Limited

### Minimum Credits Required:

40

### Curriculum Effective Date:

01-Sep-2011

## 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](http://www.bctransferguide.ca) (<http://www.bctransferguide.ca/>)**

## Requirements

### Admission Requirements

In addition to the Faculty's Admission Requirements, which consist of KPU's undergraduate English Proficiency Requirement (<https://calendar.kpu.ca/admissions/english-proficiency-requirements/>), the following program admission requirements apply:

- Principles of Physics 12 (or equivalent) with a minimum grade of C
- Chemistry 12 (or equivalent) with a minimum grade of C+
- Level A1 as defined in the Mathematics Alternatives Table (<https://calendar.kpu.ca/course-information/mathematics-alternatives-table/>)

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:

Term 1		Credits
APSC 1124	Introduction to Engineering	1
APSC 1151	Introduction to Engineering Graphics	3
CHEM 1154	Chemistry for Engineering	4
CPSC 1103	Principles of Program Structure and Design I	3
ENGL 1100	Introduction to University Writing	3
MATH 1120	Differential Calculus	3
PHYS 1120	Physics for Physical and Applied Sciences I	4
<b>Credits</b>		<b>21</b>
Term 2		
APSC 1299	Introduction to Microcontrollers	3
MATH 1152	Matrix Algebra for Engineers	3
MATH 1220	Integral Calculus	3
PHYS 1170	Mechanics I	3
PHYS 1220	Physics for Physical and Applied Sciences II	4
Select one Complementary Studies elective (p. 2)		3
<b>Credits</b>		<b>19</b>
<b>Total Credits</b>		<b>40</b>

## Complementary Studies Electives

**Conditions for course transfer and program admission are set by the receiving institution. Details must be confirmed by the student.** 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. 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 may also meet the complementary elective requirement. To confirm the suitability and transferability of courses chosen to meet the complementary elective requirement (or the language requirement), it is always advisable to contact the university in question.

## Credential Awarded

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