PRELIMINARY ENGINEERING PROGRAM

Preliminary Engineering Program

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The Preliminary Engineering Program is common to all programs in engineering. Students must complete a minimum of eight (**excluding CHEM 1122**) to be eligible to apply to one of the five degree granting engineering programs. A student must complete the following list of 13 courses as part of their engineering program in order to graduate with a BSc degree in engineering.

Course	Title	Hours
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics [1]	3
CHEM 1122	Introduction to Chemistry Techniques for Engineering 1 [1]	1.5
COMP 1012	Computer Programming for Scientists and Engineers	3
ENG 1430	Design in Engineering	3
ENG 1440	Introduction to Statics	3
ENG 1450	Introduction to Electrical and Computer Engineering	3
ENG 1460	Introduction to Thermal Sciences	3
MATH 1210	Techniques of Classical and Linear Algebra [2]	3
MATH 1510	Applied Calculus 1 [3]	3
MATH 1710	Applied Calculus 2 [3]	3
PHIL 1290	Critical Thinking [4]	3
PHYS 1050	Physics 1: Mechanics	3
Written English Course [5,6]		3
Total Hours		**37.5**

1. The former CHEM 1300 may be used in lieu of the combination of CHEM 1100 and CHEM 1122.
2. MATH 1300 is not an acceptable equivalent to MATH 1210.
3. Students intending to obtain a degree in Engineering are strongly advised to complete MATH 1510 and MATH 1710. However, MATH 1500 or MATH 1230 may be taken in lieu of MATH 1510; MATH 1700 or MATH 1232 may be taken in lieu of MATH 1710. MATH 1524 is not an acceptable equivalent to MATH 1510.
4. PHIL 1290 is the recommended complementary studies elective. Students may; however, select any course from the Faculties of Arts or Management (Asper School of Business) at the 1000 level or above, except for ARTS 1110.
5. Course selected from the list of approved Written English Courses for Engineering students.
6. Three credit hours are required to satisfy the Written English course requirement. Should a student complete a six credit hour course, the additional three credit hours may be used to satisfy general complementary studies requirements within a student's program.
7. Equivalent courses offered through Université de Saint-Boniface may be used to satisfy program requirements.

English and Mathematics Requirements

All students are required to complete the University written English and mathematics requirement within the first 60 credit hours of their program. The requirement is described in the chapter General Academic Regulations and Requirements of this Calendar. In the Engineering programs the mathematics requirement is satisfied by one of MATH 1510 or MATH 1710 (or an equivalent); the written English requirement is satisfied by completing a course selected from the list of approved Written English Courses for Engineering Students listed below.

Note that courses transferred from other institutions are evaluated for content, but are not assessed for the written English requirement unless the student explicitly requests such an assessment. Therefore, students wishing to transfer a course from another institution which may be considered equivalent to a course on the list of Written English Courses for Engineering Students should request that the transfer be assessed as meeting the written English requirement. If the assessed course is found not to meet the requirement, the student will be compelled to complete another course from the list.

Written English Courses for Engineering Students

Course	Title	Hours
ASIA 1420	Asian Civilizations to 1500 (B)	3
ASIA 1430	Asian Civilization from 1500 (B)	3
CATH 1190	Introduction to Catholic Studies	3
ENGL 1200	Representative Literary Works	6
ENGL 1300	Literature since 1900	6
ENGL 1340	Introduction to Literary Analysis	3
ENGL 1400	Thematic Approaches to the Study of Literature	3
GPE 2700	Perspectives on Global Political Economy	3
GRMN 1300	Masterpieces of German Literature in English Translation (C)	3
GRMN 1310	Love in German Culture in English Translation (C)	3
Any 1000 level HIST course [1]		3-6
Any 2000 level HIST course [1]		3-6
INDG 2020	The Métis in Canada	3
POL 1900	Love, Heroes and Patriotism in Contemporary Poland	3
POL 2600	Polish Culture until 1918	3
POL 2610	Polish Culture 1918 to the Present	3
POLS 1502	Introduction to Political Studies [2]	3
RLGN 1440	Evil in World Religions	3
RLGN 2036	Introduction to Christianity	3
RLGN 2140	Introduction to Judaism	3
RLGN 2160	Hebrew Bible (Tanakh/"Old Testament")	3
RLGN 2170	Introduction to the New Testament	3
RLGN 2222	The Supernatural in Popular Culture	3
RLGN 2590	Religion and Social Issues	3
RUSN 1400	Masterpieces of Russian Literature in Translation	3
RUSN 2280	Russian Culture until 1900	3
RUSN 2290	Russian Culture from 1900 to the Present	3
RUSN 2310	Exploring Russia through Film	3
UKRN 2200	Ukrainian Myth, Rites and Rituals	3
UKRN 2410	Ukrainian Canadian Cultural Experience	3

UKRN 2590	Ukrainian Literature and Film	3
UKRN 2770	Ukrainian Culture until 1900	3
UKRN 2780	Ukrainian Culture from 1900 to the Present	3
UKRN 2820	Holodomor and Holocaust in Ukrainian Literature and Culture	3
WOMN 1500	Introduction to Women's and Gender Studies in the Humanities	3
WOMN 1600	Introduction to Women's and Gender Studies in the Social Sciences	3
WOMN 2560	Women, Science and Technology	3

[1] Unallocated credits may not be used

[2] This course requires a laboratory