(For students admitted in 2016-17 under the 4-year degree)

BEng in Civil and Environmental Engineering

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 9 credits of these courses to count towards both Requirements.

Students may use no more than 6 credits earned from courses offered in pure online delivery mode to satisfy the graduation requirements of a degree program. This 6-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

For students graduating with an additional major, they must take all the requirements specified for that major, within which they must complete at least 20 single-counted credits. These 20 credits cannot be used to fulfill any other requirements for graduation except for the 120-credit degree requirement.

Major Requirements

Engineering Fundamental Course(s)

			Credit(s) attained
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 1022Q OR COMP 2011	3-4
COMP	1021	Introduction to Computer Science	3
COMP	1022P	Introduction to Computing with Java	3
COMP	1022Q	Introduction to Computing with Excel VBA	3
COMP	2011	Programming with C++	4
ENGG	1010	Academic Orientation	0
CHEM		Note: CHEM 1010 OR CHEM 1020	3
CHEM	1010	General Chemistry IA	3
CHEM	1020	General Chemistry IB	3
LANG	2030	Technical Communication I	3
MATH		Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]	4-7
MATH	1012	Calculus IA	4
MATH	1013	Calculus IB	3
MATH	1014	Calculus II	3
MATH	1020	Accelerated Calculus	4
MATH	1023	Honors Calculus I	3
MATH	1024	Honors Calculus II	3
MATH	2011	Introduction to Multivariable Calculus	3
MATH	2350	Applied Linear Algebra and Differential Equations	3
PHYS		Note: PHYS 1112 OR PHYS 1312	3
PHYS	1112	General Physics I with Calculus	3
PHYS	1312	Honors General Physics I	3

Required Course(s)

			Credit(s) attained
CIVL	1010	Academic and Professional Development I	0
CIVL	1100	Discovering Civil and Environmental Engineering	3
CIVL	2010	Academic and Professional Development II	0
CIVL	2020	Industrial and BIM Training	0
CIVL	2110	Statics	3
CIVL	2120	Mechanics of Materials	3
CIVL	2160	Modeling Systems with Uncertainties	3
CIVL	2170	Infrastructure Systems Engineering and Management	3
CIVL	2410	Environmental Assessment and Management	3
CIVL	2510	Fluid Mechanics	3
CIVL	2810	Construction Materials	3
CIVL	3010	Academic and Professional Development III	0
CIVL	3020	Internship Training	0
CIVL		Note: CIVL 3210 OR CIVL 3610	3
CIVL	3210	Introduction to Construction Management	3
CIVL	3610	Traffic and Transportation Engineering	3
CIVL	3310	Structural Analysis	3
CIVL	3320	Reinforced Concrete Design	3
CIVL	3420	Water and Wastewater Engineering	3
CIVL	3510	Hydrosystems Engineering	3
CIVL	3730	Fundamentals of Geotechnics	3
CIVL	3740	Geotechnical Analysis and Design	3
CIVL		Note: CIVL 4910 OR CIVL 4920 (Students taking the Research Option must take CIVL 4920)	6
CIVL	4910	Civil and Environmental Engineering Final Year Project	6
CIVL	4920	Civil and Environmental Engineering Final Year Thesis	6
CIVL	4950	Civil Engineering Capstone Design Project	3
ENGG	2010	Engineering Seminar Series	0
LANG	4033	Technical Communication II for Civil and Environmental Engineering	3

Elective(s)

			Minimum credit(s) required
CIVL/SENG		CIVL (Environmental) Electives [3 courses from the specified elective list. At least 2 courses (6 credits) should be selected from the "Restricted Electives", of which 1 course must be taken from CIVL 4450, CIVL 5450 or CIVL 5460.]	9
Restricted Electives			
CIVL	4430	Environmental Impact Assessment	3

CIVL	4450	Carbon Footprint Analysis and Reduction	3
CIVL	4460	Process Design of Environmental Engineering Facilities	3
CIVL	4520	Municipal Hydrosystems Engineering and Management	3
CIVL	5410	Physical-Chemical Water/Wastewater Treatment	3
CIVL	5420	Biological Waste Treatment	3
CIVL	5430	Aquatic Chemistry	3
CIVL	5450	Hazardous Waste Treatment and Site Remediation	3
CIVL	5460	Landfill Engineering and Design	3
CIVL	5470	Industrial Wastewater Treatment	3
CENG	4710	Environmental Control	3
CENG	4720	Environmental Impact Assessment and Management Systems	3

Others

CIVL	Any CIVL courses at 4000-level or above except those listed as "Restricted Electives" above
SENG	Any 3000-level or above courses offered by the Engineering School or engineering departments other than CIVL

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.

Option(s)

Research Option

Students with CGA of 3.15 or above may apply for enrollment in the Research Option. They should declare their intention to enroll in the Option no later than the first term of their third year of study. In addition, students should take CIVL 4920 as specified in the major requirements.

Required Course(s)

			Credit(s) attained
CIVL/UROP		Note: CIVL 4900 OR UROP 1100	1
CIVL	4900	Directed Studies	1
UROP	1100	Undergraduate Research Opportunities Series 1	1

Elective Course(s)

			Minimum credit(s) required
		Advanced Electives (Courses at 4000- or PG level. Students should seek approval of their advisor for the choices of courses.)	3