

Bachelor of Engineering Program in Civil Engineering

B.Eng. (Civil Engineering)

Philosophy of the program

This program produces graduates who are skillful in civil engineering in both theory and practice. The graduates are able to learn and apply new technologies for public benefits without destroying the environment. They can communicate fluently in English and collaborate with people in other fields locally and internationally. They also have responsibility and ethics so as to live their lives to the fullest extent of the society.

Professions after graduation:

1. Civil engineers
2. Building construction project managers
3. Civil engineering specialists
4. Building construction designers
5. Professionals in building construction and survey establishments

Curriculum

Total Program Credits **149 credits**

Structure of Curriculum

Program 1 (Non Cooperative)

General Education 31 Credits

Professional Education 112 Credits

- Basic Science and Mathematics Courses 21 Credits
- Basic Engineering Courses 18 Credits
- Pre-requisite Courses 64 Credits
- Elective Courses 9 Credits

Free-Electives 6 Credits

Program 2 (Cooperative)

General Education 31 Credits

Professional Education 112 Credits

- Basic Science and Mathematics Courses 21 Credits
- Basic Engineering Courses 18 Credits
- Pre-requisite Courses 73 Credits
- Elective Courses - Credits

Free-Electives 6 Credits

NOTE *

Students in the co-operative program must enroll in CVE301 Cooperative Education (12 Credits) and CVE302 Cooperative Seminar (1 credit) in the first semester of their fourth year; whilst not having to enroll in Elective Courses (9 Credits), CVE401 Civil Engineering Project Proposal (1 Credit), or CVE402 Civil Engineering Project (3 Credits).

COURSE STRUCTURE

Non Cooperative Program

First Year

First Semester	Credits
MTH 101 Mathematics I	3 (3 0 6)
PHY 103 General Physics for Engineering Students I	3 (3 0 6)
PHY 191 General Physics Laboratory I	1 (0 2 2)
CHM 103 Fundamental Chemistry	3 (3 0 6)
CHM 160 Chemistry Laboratory	1 (0 3 2)
CVE 100 Computer Programming for Civil Engineering	3 (2 2 6)
LNG 105 Academic English for International Students	3 (3 0 6)
GEN 101 Physical Education	1 (0 2 2)
Total	18 (14 9 36)

Second Semester	Credits
LNG 106 Academic Listening and Speaking	3 (3 0 6)
MTH 102 Mathematics II	3 (3 0 6)
PHY 104 General Physics for Engineering Students II	3 (3 0 6)
PHY 192 General Physics Laboratory II	1 (0 2 2)
CVE 111 Engineering Drawing	3 (2 3 6)
CVE 131 Engineering Mechanics 1	3 (3 0 6)
PRE 151 Engineering Materials	3 (3 0 6)
Total	19 (17 5 38)

Second Year

First Semester	Credits
LNG 107 Academic Reading and Writing	3 (3 0 6)
MTH 201 Mathematics III	3 (3 0 6)
CVE 233 Mechanics of Materials	3 (3 0 6)
CVE 232 Engineering Mechanics II	3 (3 0 6)
CVE 221 Surveying	3 (3 0 6)
CVE 223 Surveying Practices	1 (0 3 2)
GEN 111 Man and Ethics of Living	3 (3 0 6)
GEN 121 Learning and Problem Solving Skills	3 (3 0 6)
Total	22 (21 3 44)

Second Semester	Credits
CVE 224 Surveying Project	1 (0 3 2)
CVE 225 Surveying Field Camp	1 (0 6 3)
CVE 236 Civil Engineering Materials	2 (1 3 4)
CVE 237 Structural Analysis I	3 (3 0 6)
CVE 281 Fluid Mechanics	3 (3 0 6)
CVE 361 Engineering Geology	2 (2 0 4)

CVE 240 Applied Mathematics for Civil Engineers	3 (3 0 6)
GEN 231 Miracle of Thinking	3 (3 0 6)
Total	18 (15 12 37)

Third Year

First Semester

Credits

CVE 335 Cement and Concrete Materials	3 (2 3 6)
CVE 338 Structural Analysis II	3 (3 0 6)
CVE 362 Soil Mechanics	3 (3 0 6)
CVE 363 Soil Mechanics Laboratory	1 (0 3 2)
CVE 385 Hydrology	3 (3 0 6)
CVE 394 Hydraulic Laboratory	1 (0 3 2)
CVE 311 Engineering Management	3 (3 0 6)
GEN 241 Beauty of Life	3 (3 0 6)
Total	20 (17 9 40)

Second Semester

Credits

CVE 414 Construction Estimating and Specifications	3 (3 0 6)
CVE 341 Steel and Timber Design	3 (2 3 6)
CVE 342 Reinforced Concrete Design	4 (3 2 8)
CVE 364 Foundation Engineering	3 (3 0 6)
CVE 371 Highway Engineering	3 (3 0 6)
CVE 382 Hydraulic Engineering	3 (3 0 6)
Total	19 (17 5 38)

Summer Session

CVE 300 Industrial Training	2(S/U)
Total	2(S/U)

Forth Year

First Semester

Credits

CVE 401 Civil Engineering Project Proposal	1 (0 3 2)
CVE xxx Civil Engineering Elective 1	3 (x x x)
CVE xxx Civil Engineering Elective 2	3 (x x x)
XXX xxx Free-elective 1	3 (3 0 6)
XXX xxx Free-elective 2	3 (3 0 6)
GEN 351 Modern Management and Leadership	3 (3 0 6)
Total	16 (9+x 3+x 20+x)

Second Semester

Credits

CVE 402 Civil Engineering Project	3 (0 6 9)
CVE xxx Civil Engineering Elective 3	3 (x x x)
GEN xxx General Elective 1	3 (3 0 6)
GEN xxx General Elective 2	3 (3 0 6)

CVE 415 Construction Management	3 (3 0 6)
Total 15 (9+x 6+x 27+x)	

Cooperative Program

Study plan for 1st year/1st semester through 3rd year/Summer semester are identical to those in the Non-cooperative program. Study plan for the fourth year is as follows:

Forth Year

First Semester

	Credits
CVE 301 Cooperative Education	12 (0 35 36)
CVE 302 Cooperative Seminar	1 (0 3 2)
Total	13 (0 38 38)

Second Semester

	Credits
XXX xxx Free-elective 1	3 (3 0 6)
XXX xxx Free-elective 2	3 (3 0 6)
GEN 351 Modern Management and Leadership	3 (3 0 6)
GEN xxx General Elective 1	3 (3 0 6)
GEN xxx General Elective 2	3 (3 0 6)
CVE 415 Construction Management	3 (3 0 6)
Total	18 (18 0 36)