

Bachelor of Science in Civil Engineering Recommended Course Sequence

Required Courses

CE A152*	Intro to Civil Engineering	1	ES A331*	Mechanics of Materials	3
CE A334/L*	Properties of Materials w/lab	3	ES A341*	Fluid Mechanics	3
CE A344	Water Resources Engr.	3	ES A341L*	Fluid Mechanics Lab	1
CE A403	Arctic Engineering	3	ESM A450	Econ. Analysis & Operation	3
CE A405	Transportation Engineering I	3	GEO A155*	Fundamentals of Surveying	3
CE A406	Transportation Engineering II	3	MATH A200*	Calculus I	4
CE A422	Foundation Engineering	3	MATH A202*	Calculus III	4
CE A431*	Structural Analysis	4	MATH A201*	Calculus II	4
CE A432 ¹	Steel Design	3	MATH A302*	Differential Equations	3
CE A433 ¹	Reinforced Concrete Design	3	PHYS A211*	General Physics I	3
CE A435/L*	Soil Mechanics w/lab	3	PHYS A211L*	General Physics I Lab	1
CE A437	Project Planning	1	PHYS A212*	General Physics II	3
CE A438	Design of Engr. Systems	3	PHYS A212L*	General Physics II Lab	1
CE A441*	Intro Environmental Engr.	3			
CE A442	Environmental Systems Design	3			
CE A461 ²	Hydraulic Analysis and Design	3			
CE A464 ²	Hydrologic Analysis and Design	3			
CHEM A105*	General Chemistry I	3			
CHEM A105L*	General Chemistry I Lab	1			
CHEM A106*	General Chemistry II	3			
CHEM A106L*	General Chemistry II Lab	1			
ENGL A212 ³	Technical Writing	3			
ENGR A151*	Engr. Practices I	1			
ENGR A161*	Engr. Practices II	3			
ES A103/L	Engr. Graphics & Labs	3			
ES A209*	Engineering Statics	3			
ES A210*	Engineering Dynamics	3			
ES A302*	Engr. Data Analysis	3			

Other Requirements

Oral Communication	3
Social Science	3
Basic Science Elective ⁴	3
Humanities	3
Social Science	3
Humanities	3
Fine Arts	3
CE Technical Elective ⁵	3
CE Technical Elective ⁵	3

A **total** of 132 credits are required for the degree

All courses with an asterisk (*) must be completed with a grade of “C” or better.

¹One structural design course is required and this may be fulfilled by taking either CE A432 Steel Design or CE A433 Reinforced Concrete Design. If both courses are taken, the second course will count as a technical elective.

²CE A344 Water Resources Engineering is no longer offered. Students may fulfill this requirement with either CE A461 Hydraulic Analysis and Design or CE A464 Hydrologic Analysis and Design.

³Students who do not meet the prerequisite requirements for ENGL A212 Technical Writing must take ENGL A111 Methods of Written Communication.

⁴The Civil Engineering Program requires a Basic Science Elective (min. 3 credits) is taken from the following list: BIOL A115/L Fundamentals of Biology I with Lab (4), BIOL/GEOL A178 Fundamentals of Oceanography (3), BIOL A271/L Principles of Ecology with Lab (4), GEOL A111 Physical Geology (4), GEOL A115 Environmental Geology (3).

⁵Graduate level courses (600 or above) that may be used as technical electives are listed in the Civil Engineering section of the catalog. A petition must be filed with the department to apply these courses as undergraduate credit.