

B.S. in Civil Engineering

Catalog Year 2022–23

Below is the *advised sequence* of courses for this degree program on Main Campus as of 7/12/22.

Official degree requirements and course prerequisites are in the University General Catalog; prerequisites are subject to change.

Course Number and Title	Units	Prerequisites/Enrollment Requirements
1st Semester		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
*CHEM 151 Chemical Thinking I or CHEM 161/163	4	Appropriate Math Placement
ENGL 101 or 107 or 109H First-Year Composition	3	
ENGR 102A/102B Introduction to Engineering or ENGR 102	3	ENGR102A: MATH 112; ENGR102B: Concurrently enrolled or completion of MATH 122B or 125; FR & SOPH Status
UNIV 101 Intro to the General Education Experience	1	
Semester Total		16/14
2nd Semester		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
MCB 181R/L Introductory Biology I or GEOS 251 Physical Geology	4	MCB 181R/L: Appropriate Math Placement
*PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122B or 125 or Appropriate Math Placement Level
ENGL 102 or 108 First-Year Composition	3	ENGL 101 or ENGL 107
General Education: Exploring Perspectives (Artist)	3	
Semester Total		17
3rd Semester		
CE 210 Engineering Graphics - Fall Only	1	
CE 214 Statics	3	PHYS 141 or 161H; MATH 129
MATH 223 Vector Calculus	4	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism or PHYS 261H or *CHEM152 General Chemistry II or CHEM 162/164	4	For PHYS 241 or 261H: PHYS 141 or 140 or 161H, MATH 129; For CHEM 152 or CHEM 162/164: CHEM 151 or 141/143 or 161/163 and Appropriate Math Placement
General Education: Exploring Perspectives (Humanist)	3	
†General Education: Building Connections	3	
Semester Total		18
4th Semester		
CE 215 Mechanics of Solids	3	CE 214
CE 218 Mechanics of Fluids	3	CE 214 or ENGR 211C (for EEN majors only)
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
CE 251 Elementary Surveying	3	CE 210 Pre/Co-requisite
CE 260 Computer Programming in Civil Engineering – Spring Only	1	MATH 223
General Education: Exploring Perspectives (Social Scientist)	3	
Semester Total		16

*Each of the following foundational science courses satisfies the requirements for General Education: Exploring Perspectives (Natural Scientist): CHEM 151 or 152 or 161 or 162; or PHYS 141 or 161H.

Advanced Standing is required for 300- and 400-level engineering courses (see your academic advisor for details).

Course Number and Title	Units	Comments
5th Semester		
**CE 301 Engineering Communications	3	
CE 303 Numerical Analysis for Civil Engineers	3	
CE 310 Probability and Statistics in Civil Engineering	3	
CE 333 Elementary Structural Analysis	3	
CE 363 Transport Engineering and Pavement Design	4	
Semester Total	16	
6th Semester		
CE 323 Hydraulic Engineering and Design	4	
CE 335 Structural Design in Concrete or Technical Elective	3	
CE 343 Soil Mechanics	3	
CE 370R Environmental and Water Engineering or CE 381 Construction Engineering Management	3	
CE Lab Requirement – CE 329 or 349 or 389	1	Consult major advisor for availability
ENGR 211P & I - Engineering Science Elective Modules	2	
Semester Total	16	
7th Semester		
CE 408A Issues in Civil Engineering Practice	3	
CE 334 Structural Design in Steel or Technical Elective	3	
CE 440 Foundation Engineering	3	
CE Technical Elective	3	
CE Technical Elective	3	
CE Lab Requirement – CE 329 or 349 or 389	1	Consult major advisor for availability
Semester Total	16	
8th Semester		
CE 408B Civil Engineering Senior Capstone Design	3	
CE Technical Elective	3	
CE Technical Elective	3	
CE Lab Requirement – CE 329 or 349 or 389	1	Consult major advisor for availability
Elective	1	Depends on selection of General Education course, Consult with major advisor for course approval
†General Education: Building Connections	3	
UNIV 301 General Education Portfolio	1	
Semester Total	15	

†Students should work closely with their academic advisor to select General Education: Building Connections courses; some course work in the major, such as some Technical Elective courses, may also fulfill General Education: Building Connections requirements.

**CE 301 will fulfill a General Education Building Connections course; provisionally approved for Fall 2022.