

# B.S. Civil Engineering

## General Education

Including the University's General Education Requirements (a minimum of 36 credits--see the General Education Requirements (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) in the Academic Information section of this catalog), students must complete the required courses listed below. Some of the required courses also satisfy or partially satisfy the General Education Objectives, as noted. The courses are listed in the sequence they are to be taken.

Code	Title	Credits
Objective 1 - ENGL 1102		6
Objective 2 - COMM 1101		3
Objective 3 - MATH 1170		3
Objective 4		6
Objective 5 CHEM 1111/CHEM 1111L and GEOL 1100/ GEOL 1100L or GEOL 2204 or GEOL 2205		9
Objective 6		6
Students must fulfill Objective 7 or Objective 8		3
Objective 7 - CS 1181		
Objective 8		
Objective 9		3
<b>Total Credits</b>		<b>39</b>

## Required Courses

Code	Title	Credits
ENGL 1102	Writing and Rhetoric II (Partially satisfies General Education Objective 1)	3
MATH 1170	Calculus I (Satisfies General Education Objective 3)	4
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Lab (Partially satisfies General Education Objective 5)	5
<b>Choose one of the following:</b>		<b>4</b>
GEOL 1100 & 1100L	The Dynamic Earth and The Dynamic Earth Lab	
GEOL 2204	Fluid Earth	
GEOL 2205	Solid Earth	
BIOL 1101 & 1101L	Biology I and Biology I Lab	
MATH 1175	Calculus II	4
PHYS 2211	Engineering Physics I (Partially satisfies General Education Objective 5)	4
CE 1105	Engineering Graphics	2
CE/ME 2210	Engineering Statics	3
CS/INFO 1181	Computer Science and Programming I	3
MATH 3352	Introduction to Probability	3
MATH 2240	Linear Algebra	3
CE 2200	Civil Engineering Tools	1
COMM 1101	Fundamentals of Oral Communication (Satisfies General Education Objective 2)	3
CE/ME 2220	Engineering Dynamics	3

CE/ME 3350	Mechanics of Materials <sup>4</sup>	3
MATH 3360	Differential Equations	3
CE 3332	Basic Geotechnics <sup>4</sup>	3
CE 3337	Geotechnical Engineering Laboratory	1
CE 3301	Surveying	3
CE 3362	Structural Analysis	3
CE 3361	Engineering Economics and Management	3
CE 3366	Civil Engineering Materials	2
CE 3367	Civil Engineering Materials Laboratory	1
CE 4434	Geotechnical Design	3
CE/ME 3341	Fluid Mechanics <sup>4</sup>	3
CE 3351	Engineering Hydrology	3
ENVE 4408	Water and Waste Water Quality <sup>1</sup>	3
CE 4462	Design of Steel Structures	3
or CE 4464	Design of Concrete Structures	
ENVE 4410	Introduction to Environmental Engineering	3
CE 4435	Hydraulic Design	3
CE 4496A	Project Design I	3
CE 4436	Transportation Engineering	3
CE 4496B	Project Design II	3
CE Technical Electives <sup>2</sup>		9
Add'l General Education Objectives <sup>3</sup>		
<b>Total Credits</b>		<b>106</b>

<sup>1</sup> Students must earn a minimum of C- in CHEM 1111/CHEM 1111L before enrolling in ENVE 4408.

<sup>2</sup> List of approved courses is available in the Civil Engineering Checklist. Two of the three CE Technical Elective courses must be selected from at least two different areas of Geotechnical, Structures, Water Resources, Environmental, or other areas. The third technical elective can be taken from any of the above areas or from another category or course that has been approved by the Department.

Geotechnical: CE 4438, CE 4454, CE 4455, CE 4475, CE 4476, CE 4480

Structures: CE 4431, CE 4462, CE 4464, CE 4465, CE 4466, CE 4468

Water Resources: CE 4424, CE 4425

Environmental: CE 4406, ENVE 4404, ENVE 4409, ENVE 4430

Other: CE 4460, ME 4440

<sup>3</sup> See the General Education Requirements (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) in the Academic Information section of this catalog.

<sup>4</sup> A minimum of C- is required for CE 3332, CE/ME 3341 and CE/ME 3350

## Emphasis in Engineering Geology

Complete the following courses in addition to the Bachelor of Science in Civil Engineering:

Code	Title	Credits
CE/GEOL 4454	Basic Engineering Geology	3
CE/GEOL 4455	Geologic Data Methods	3
CE/GEOL 4475	Essentials of Geomechanics	3

CE/GEOL 4476	Engineering Geology Project	1
CE 4480/GEOL 4483	Earthquake Engineering	3

### **Degree Totals**

<b>Code</b>	<b>Title</b>	<b>Credits</b>
Program Admission Requirements		0
General Education		39
Major Requirements (Required General Education credits removed)		87
Free Electives		0
<b>Total Credits</b>		<b>126</b>

ISU Degree Requirements (<http://coursecat.isu.edu/undergraduate/degreerequirements/>)

ISU General Education (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>)

Major Academic Plan (MAP) (<https://www.isu.edu/advising/maps/>)