

# 2025-2026 Civil Engineering Design Electives

Students must take one of the courses listed below.

**NOTES:**

1. Courses that appear on multiple lists, shown below with yellow shading, may NOT be double counted.
2. The student is responsible for checking and abiding by the ISU catalog regarding official course details.

**ENVIRONMENTAL/WATER RESOURCES**

Course	CR	Title	Typically Offered*	Pre-requisites
CE/ENVE 4280	3	Water and Wastewater Treatment Plant Design ( <i>General Option Only</i> )	S	CE 3260
CE 4730 CE 5730	3	Groundwater Hydrology	F	CE 3720
CE 5220	3	Water Pollution Control Processes		CE 4210 or CE 5210
CE 5280	3	Solid and Hazardous Waste Management		CE 3260 and junior or higher standing
CE 5700	3	Applied Hydraulic Design	F (odd)	CE 3720
CE 5710	3	Surface Water Hydrology	S	CE 3720

**STRUCTURES**

Course	CR	Title	Typically Offered*	Pre-requisites
CE 3330	3	Structural Steel Design I	F, S	CE 3320, EM 3270
CE 3340	3	Reinforced Concrete Design I	F, S	CE 3320, EM 3270
CE 4460 CE 5460	3	Bridge Design	S (odd)	CE 3330, CE 3340
CE 4480 CE 5480	3	Building Design	S (even)	CE 3330, CE 3340
CE 5330	3	Structural Steel Design II		CE 3330
CE 5340	3	Reinforced Concrete Design II		CE 3340
CE 5350	3	Prestressed Concrete Structures		CE 3340

## GEOTECHNICAL/MATERIALS

Course	CR	Title	Typically Offered*	Pre-requisites
CE 4600	3	Foundation Engineering	F, S	CE 3600
CE 4670 CE 5670	3	Geomaterials Stabilization		[CE 3600 and (CE 3820 or CE 3830)] or instructor permission
CE 4830 CE 5830	3	Pavement Analysis and Design	S	CE 3600, CE 3820
CE 4840 CE 5840	3	Advanced Design of Concretes		CE 3820
CE 5610	3	Applied Foundation Engineering		CE 4600 or instructor permission

## TRANSPORTATION

Course	CR	Title	Typically Offered*	Pre-requisites
CE 4530	3	Highway Design	F	CE 3060, CE 3550
CE 5520	3	Traffic Safety, Operations, and Maintenance	S (even)	CE 3550
CE 5530	3	Traffic Engineering	F	CE 3550
CE 5580	3	Transportation Systems Development and Management		CE 3550

## MULTIDISCIPLINARY/CONSTRUCTION

Course	CR	Title	Typically Offered*	Pre-requisites
ABE 4780 ABE 5780	3	Wood Frame and Agri-Industrial Structures	S (odd)	EM 3240
CE 5050	3	Design of Construction Systems		CE 3330, CE 3600, CONE 3220, CONE 3400

\*F = Fall, S = Spring

Approved by the CE Curriculum Committee  
Updated 8/20/25