

# Bachelor of Science in CIVIL ENGINEERING

## 2018-2019 Academic Catalog

Total Credits: 124 -128

<http://coen.boisestate.edu/ce/>

UPDATED: March 2018

FIRST YEAR	FALL SEMESTER			SPRING SEMESTER			FIRST YEAR
	MATH 170 (FM)	Calculus I: Concepts and Applications	4	MATH 175	Calculus II: Concepts and Applications	4	
CMGT 120	Introduction to Construction Management	3	PHYS 211 (FN)	Physics I with Calculus	4		
UF 100	Foundations of Intellectual Life	3	PHYS 211L (FN)	Physics I with Calculus Lab	1		
ENGL 101 (FW)	Introduction to College Writing	3	ENGL 102 (FW)	Introduction to College Writing and Research	3		
ENGR 120 or ENGR 130	Introduction to Engineering or Introduction to Engineering Applications	3 4	CE 286	Introduction to AutoCAD for Civil Engineers	2		
			CE 280	Civil Engineering Case Studies	2		
	<b>SEMESTER TOTAL</b>	<b>16-17</b>		<b>SEMESTER TOTAL</b>	<b>16</b>		

SECOND YEAR	FALL SEMESTER			SPRING SEMESTER			SECOND YEAR
	CHEM 111 (FN)	General Chemistry I	3	CHEM 112	General Chemistry II	3	
CHEM 111L	General Chemistry I Laboratory	1	CHEM 112L	General Chemistry II Laboratory	1		
MATH 275	Multivariable and Vector Calculus	4	MATH 333	Differential Equations with Matrix Theory	4		
ENGR 210	Engineering Statics	3	CE 350 or ME 350	Mechanics of Materials or Engineering Mechanics of Materials	3		
MATH 360 or MATH 361	Engineering Statistics or Probability and Statistics I	3	UF 200	Foundations of Ethics and Diversity	3		
CE 210	Engineering Surveying	2	ENGL 202 (FS)	Introduction to Technical Communication	3		
CE 211	Engineering Surveying Lab	1					
	<b>SEMESTER TOTAL</b>	<b>17</b>		<b>SEMESTER TOTAL</b>	<b>17</b>		

### Admission to Upper Division Requirement

The following courses must be completed in order to apply for *Admission to Upper Division* :

**CE 280, CHEM 112, CE or ME 350, MATH 275, MATH 333, and MATH 360 or MATH 361**

Check our website for minimum GPA required in these courses and other requirements to be successfully admitted.

THIRD YEAR	FALL SEMESTER			SPRING SEMESTER			THIRD YEAR
	CE 320	Principles of Environmental Engineering	3	CE 370	Transportation Engineering Fundamentals	3	
CE 321 (FC)	Principles of Environmental Engineering Lab	1	CE or ME 330	Fluid Mechanics	3		
CE 352	Structures I	3	CE or ME 331	Fluid Mechanics Lab	1		
CE 340	Engineering Properties of Construction Materials	3	FA	Foundations of Arts	3		
CE 341 (FC)	Construction Materials Lab	1	CE 360	Engineering Properties of Soils	3		
ENGR 220	Engineering Dynamics	3	CE 361	Engineering Properties of Soils Lab	1		
CE 284 or CS 117	Civil Engineering Computational Methods or C++ for Engineers	2 3	ME 302 or ENGR 240	Thermodynamics I or Electrical and Electronic Circuits	3 3		
	<b>SEMESTER TOTAL</b>	<b>16-17</b>		<b>SEMESTER TOTAL</b>	<b>17</b>		

FOURTH YEAR	FALL SEMESTER			SPRING SEMESTER			FOURTH YEAR
	CE 481 (FC)	Senior Design Project I	1	CE-TE	CE Technical Elective	3	
FS	Foundations of Social Sciences	3	TechE	Technical Elective	3		
SciE	Science Elective	3-4	FH	Foundations of Humanities	3-4		
CE-DE	CE Design Elective	3	CE 483 (FF)	Senior Design Project II	3		
CE-TE	CE Technical Elective	3					
	<b>SEMESTER TOTAL</b>	<b>13-14</b>		<b>SEMESTER TOTAL</b>	<b>12-13</b>		

Offered **FALL** only

Offered **SPRING** only

### UNIVERSITY FOUNDATIONS REQUIREMENTS

**FA:** Foundations of Arts

**FC:** Foundations of Oral Communication

**FF:** Finishing Foundations

**FH:** Foundations of Humanities

**FM:** Foundations of Mathematics

**FN:** Foundations of Natural, Physical, and Applied Sciences

**FS:** Foundations of Social Sciences

**FW:** Foundations of Writing

**CIVIL ENGINEERING  
ELECTIVES**

**CE DESIGN ELECTIVES (CE DE)**

A Civil Engineering Design Elective is defined as a non-required course, taught by the Civil Engineering Department, with a primary emphasis on design.

CE 424	Water Treatment Plant System & Design	CE 436	Hydraulics
CE 425	Wastewater Treatment Plant System & Design	CE 440	Pavement Design and Evaluation
CE 450	Reinforced Concrete Design	CE 460	Geotechnical Engineering Design
CE 452	Structural Steel Design	CE 462	Foundation Design
CE 454	Timber Design	CE 470	Highway and Traffic Systems Design
CE 456	Masonry Design	CE 475	Traffic Engineering

**CE TECHNICAL ELECTIVES (CE TE)**

A Civil Engineering Technical Elective is defined as a non-required course, taught by the Civil Engineering Department. Civil Engineering Technical Electives include all Civil Engineering Design Electives.

**CE DESIGN ELECTIVES (see above)**

CE 310	Advanced Surveying	CE 351	Codes and Official Documents
CE 402	Computational Techniques	CE 354	Structures II
CE 410	Engineering Hydrology	CE 437	GIS in Water Resources
CE 412	Hydrogeology	CE 438	Water Resources Engineering
CE 420	Environmental Process Chemistry	CE 472	Transportation Planning
CE 422	Hazardous Waste Engineering		
CE 423	Air Pollution Control		
CE 426	Aqueous Geochemistry		

**TECHNICAL ELECTIVES (TechE)**

A Technical Elective is defined as a non-required course that is related to the Civil Engineering profession. This course may be taught by departments other than Civil Engineering. Civil Engineering Design Electives, Technical Electives, and 300/400-level Science Electives may also be used as Technical Electives. Courses outside of Civil Engineering may be used for Technical Electives with the approval of a Civil Engineering faculty advisor.

**CE DESIGN ELECTIVES (see above)**

and

**CE TECHNICAL ELECTIVES (see above)**

and

**SCIENCE ELECTIVES (300/400-level courses only)**

and

CE 493	Internship *
CE 496	Independent Study *

and

Many upper division courses from departments and programs outside of Civil Engineering. \*\*

\* CE Internship and/or Independent Study may be used for up to 3 credits each in meeting the Technical Elective requirements.

\*\* ENGR 360, MATH 360, and MATH 361 **may not** be used as a Technical Elective.

**SCIENCE ELECTIVES (SciE)**

A Science Elective is defined as a science course from a field that is not Chemistry or Physics and expands the student's understanding of the nature of an aspect of Civil Engineering. Courses in addition to those listed may be used to meet this requirement with the approval of the Civil Engineering Faculty.

BIOL 100	Concepts of Biology	GEOG 321	Sustainability Of Natural Resources
BIOL 107	Introduction to Human Biology	GEOG 331	Climatology
BIOL 109	Plants and Society	GEOG 360	Introduction To GIS
BIOL 191	General Biology I	GEOPH 305	Applied Geophysics
BIOL 192	General Biology II	GEOS 100	Fundamentals of Geology
ENVHLTH 310	Water Supply And Water Quality Mgmt	GEOS 101	Environmental Geology
ENVHLTH 416	Noise And Other Physical Agents		
ENVSTD 121	Introduction To Environmental Studies		