

# BACHELOR OF SCIENCE IN CIVIL ENGINEERING - CONSTRUCTION AND INFRASTRUCTURE SYSTEMS ENGINEERING

Code	Title	Credit Hours
<b>Wellness Requirement</b>		
APPH 1040	Scientific Foundations of Health	2
	or APPH 10 The Science of Physical Activity and Health	
	or APPH 10 Flourishing: Strategies for Well-being and Resilience	
<b>Core IMPACTS</b>		
<b>Institutional Priority</b>		
CS 1371	Computing for Engineers	3
<b>Mathematics and Quantitative Skills</b>		
MATH 1552	Integral Calculus <sup>3</sup>	4
<b>Political Science and U.S. History</b>		
HIST 2111	The United States to 1877	3
	or HIST 2111 The United States since 1877	
	or INTA 1200 American Government in Comparative Perspective	
	or POL 1101 Government of the United States	
	or PUBP 3000 American Constitutional Issues	
<b>Arts, Humanities, and Ethics</b>		
Any HUM		6
<b>Communicating in Writing</b>		
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
<b>Technology, Mathematics, and Sciences</b>		
PHYS 2211	Principles of Physics I <sup>2,3</sup>	4
PHYS 2212	Principles of Physics II	4
MATH 1551	Differential Calculus <sup>3</sup>	2
MATH 1553	Introduction to Linear Algebra <sup>3</sup>	2
	or MATH 1551 Linear Algebra	
	or MATH 1553 Linear Algebra with Abstract Vector Spaces	
<b>Social Sciences</b>		
Any SS		9
<b>Field of Study</b>		
COE 2001	Statics <sup>3</sup>	2
MATH 2551	Multivariable Calculus	4
MATH 2552	Differential Equations <sup>3</sup>	4
CHEM 1310	Principles of General Chemistry for Engineers <sup>3</sup>	4
Select one of the following:		4
BIOS 1107	Biological Principles	
& 1107L	and Biological Principles Laboratory	
BIOS 1108	Organismal Biology	
& 1108L	and Organismal Biology Laboratory	
EAS 2600	Earth Processes	
<b>Major Requirements</b>		

<b>Ethics Requirement<sup>1</sup></b>		
<b>Economics Requirement<sup>6</sup></b>		
CEE 1070	Engineering Graphics for Civil and Environmental Engineering	1
CEE 1090	Exploring Civil and Environmental Engineering	2
CEE 2040	Dynamics	2
CEE 2090	Civil and Environmental Engineering Systems	3
CEE 2300	Environmental Engineering Principles	3
CEE 3020	Civil Engineering Materials	3
CEE 3040	Fluid Mechanics	3
CEE 3090	Data Analytics in Civil and Environmental Engineering	3
Select one of the following:		3
CEE 3770	Statistics and Applications	
ISYE 3770	Statistics and Applications	
MATH 3670	Probability and Statistics with Applications	
CEE 4090	Capstone Design	3
<b>College of Engineering Requirements</b>		
COE 3001	Mechanics of Deformable Bodies	3
<b>Construction and Infrastructure Systems Engineering Concentration</b>		
CEE 4100	Construction Engineering and Management	3
Concentration electives		9
Select three of the following:		
CEE 4050	Infrastructure System Management	
CEE 4110	Construction Planning, Estimating, and Scheduling	
CEE 4120	Construction Operations	
CEE 4130	Construction Safety and Health	
CEE 4140	Bldg Info Model Constr	
CEE 4150	Construction Management & Megaprojects	
CEE 4160	Smart and Sustainable Cities	
CEE 4161	AI For Smart Cities	
CEE 4170	Construction Law	
CEE 4180	Infrastructure Finance	
CEE 4005	Innovation & Entrepreneurship in CEE Systems	
CEE 4803	Special Topics (Infrastructure Finance)	
CEE 6125	Construction Industry Best Practices	
CEE 6651	Infrastructure Systems Management	
CEE 6652	Infrastructure Management: IT Applications	
CEE 6185	Automation in Construction	
CEE 8813	Special Topics (Data Analytics for CEE Systems)	
CEE 8813	Special Topics (Sustainable Buildings)	
CEE 8813	Special Topics (Quantitative Methods for Construction Research)	
<b>CE Breadth Electives</b>		
Select two of the following:		6
CEE 4200	Hydraulic Engineering	
CEE 4300	Environmental Engineering Systems	
CEE 3400	Introduction to Geotechnical Engineering	
CEE 4600	Transportation Planning, Operations, and Design	

CEE 4200	Hydraulic Engineering	3
	or CEE 340C Introduction to Geotechnical Engineering	
<b>CE Technical Electives</b>		
CE Electives <sup>4</sup>		9
<b>Approved Electives</b>		
Approved Electives <sup>5</sup>		6
<b>Total Credit Hours</b>		<b>128</b>

No pass-fail allowed, except for CS 1171.

CEE 4801 not allowed toward degree.

Students must earn a 2.0 average in all CEE courses.

<sup>1</sup> Students must complete one Ethics course during their program. For a complete list of Ethics courses, please see: Ethics

<sup>2</sup> If PHYS 2231 is taken, extra credit hour goes to Free Electives.

<sup>3</sup> Minimum grade of C is required.

<sup>4</sup> Any 3000-level or higher CEE course, with the exception of CEE 4801, CEE 8811, and CEE 8812. Maximum of 3 credit hours CEE 4699 and CEE 4900. Only one non-CEE course allowed: CHBE 2130, ME 3322, MSE 3001, COA 4010, CP 4010, CP 4020, CP 4310, and CP 4510.

<sup>5</sup> Maximum 3 credit hours CEE 2699 allowed. MATH 1113, PHYS 2802, PHYS 2XXX (AP credit), are not allowed.

<sup>6</sup> Students must complete one course from the following list that includes appropriate economic content relevant to the program: ECON 2100, ECON 2101, ECON 2105, or ECON 2106. Note that ECON 2100, 2101, 2105, 2106 may also be applied toward Core IMPACTS Social Science credit hours. You should discuss this with your academic advisor to ensure that you are taking the most efficient path to complete both areas.