

# Civil Engineering

## Bachelor of Science (BS. ENGC)

Core Requirements				Credits	Notes/Instructions
College Sem.	Quest for Meaning	CSEM 100		3	†A student may be required to take ENGL 105 and/or MATH 100 based on placement exams administered prior to their first semester at King's College. ENGL 105 and MATH 100 are 3-credit courses and will count as free electives. †† The Intercultural Competence requirement can be satisfied by taking a 100-level language class for 3 credits or participating in an approved Study Abroad experience. <b>SBM</b> = Satisfied by Major requirement(s) and credit(s) listed below.
Communication & Creative Expression	Writing	ENGL 110†		3	
	Oral Communication	COMM 101		3	
	Literature	ENGL 140-149		3	
	The Arts	ARTS 100-149		3	
Citizenship	History	HIST 100-149		3	
	Intercultural	FREN/GERM/SPAN 100-level or Study Abroad††		3	
	Global Connections	ECON 150-199; GEOG 150-199; HIST 150-199; PS 150-199; SOC 150-199		3	
Quantitative & Scientific Reasoning	SBM Quantitative Reasoning	MATH 120+ or higher level		-	
	SBM Scientific Endeavor	NSCI 100		-	
	SBM Science in Context	NSCI 171-199		-	
	Human Beh. & Soc. Inst	ECON 111, 112; GEOG 101, 102; PS 101, PSYC 101, SOC 101		3	
Wisdom, Faith, & the Good Life	Introduction to Phil.	PHIL 101		3	
	Phil. Investigations	PHIL 170-199; MSB 287		3	
	Theology & Wisdom	THEO 150-159		3	
	Theology & the Good Life	THEO 160-169		3	
<b>Total Core Credits</b>				<b>39</b>	

Mathematics and Science Requirements		Credits	Civil Engineering Requirements		Credits
	PHYS 113 <sup>CR,2</sup> Physics for Scientists & Engineers I	3		PHYS 241 <sup>PR</sup> Statics	3
	PHYS 113L Physics for Scientists & Engineers I Lab	1		PHYS 242 <sup>PR</sup> Mechanics of Solids	3
	PHYS 114 <sup>PR</sup> Physics for Scientists & Engineers II	3		ENGR 150 Engineering Seminar	2
	PHYS 114L <sup>PR</sup> Physics for Scientists & Engineers II Lab	1		ENGR 350 <sup>PR</sup> Engineering Materials	3
	CHEM 113 <sup>2</sup> General Chemistry I	3		ENGR 350L <sup>PR</sup> Engineering Materials Lab	0.5
	CHEM 113L General Chemistry I Lab	1		ENGR 360 <sup>PR</sup> Probability & Engineering Statistics	3
	MATH 129 Calculus I	4		CE 111 Computer Applications for Civil Engineers	2
	MATH 130 <sup>PR</sup> Calculus II	4		CE 111L Computer Applications for Civil Eng's Lab	1
	MATH 231 <sup>PR</sup> Calculus III	4		CE 200 <sup>PR</sup> Introduction to Civil Engineering	3
	MATH 237 <sup>PR</sup> Math Methods for Physical Sciences	3		CE 200L <sup>PR</sup> Introduction to Civil Engineering Lab	0.5
	MATH 238 <sup>PR</sup> Differential Equations	3		CE 300 <sup>PR</sup> Dynamics	3
	ENST 202 Environmental Science II	3		CE 310 <sup>PR</sup> Fluid Mechanics	3
	ENST 202L Environmental Science II Lab	1		CE 310L <sup>PR</sup> Fluid Mechanics Lab	0.5
				CE 320 <sup>PR</sup> Civil Engineering Materials	3
				CE 325L <sup>PR</sup> Materials and Soils Lab	1
				CE 330 <sup>PR</sup> Project Mgmt & Engineering Economics	3
				CE 340 <sup>PR</sup> Hydraulics and Hydrology	3
				CE 340L <sup>PR</sup> Hydraulics and Hydrology Lab	1
				CE 350 <sup>PR</sup> Environmental Engineering	3
				CE 360 <sup>PR</sup> Soil Mechanics	3
				CE 400 <sup>PR</sup> Structural Design and Analysis I	3
				CE 400L <sup>PR</sup> Structural Design and Analysis I Lab	1
				CE 410 <sup>PR</sup> Structural Design and Analysis II	3
				CE 410L <sup>PR</sup> Structural Design and Analysis II Lab	1
				CE 420 <sup>PR</sup> Transportation Engineering	3
				CE 440 <sup>PR</sup> Senior Design	3
				CE 440L <sup>PR</sup> Senior Design Lab	1
				CE 450 <sup>PR</sup> Special Topics in Civil Engineering	3
				CE 480 <sup>PR</sup> Senior Civil Engineering Seminar	1
<b>Other Requirements</b>					
	HCE 101 Holy Cross Experience	1			
<b>Total Mathematics &amp; Science &amp; Other Credits</b>		<b>35</b>	<b>Total Civil Engineering Credits</b>		<b>63.5</b>

### Total Credits Required for Graduation = 137.5

Civil Engineering students are eligible to sit for industry certification exams based on the completion of the following courses:

- CE 330: Proj Mgmt & Eng Econ: Certified Associate in Project Management (CAPM)<sup>®</sup> - Project Management Institute

# Civil Engineering

## Suggested Sequence

A suggested course sequence of degree requirements is listed below. Refer to the college catalog for course titles, descriptions, and prerequisites. Always consult your Academic Advisor when planning and scheduling your classes.

Fall	Credits	Spring	Credits
CHEM 113 <sup>2</sup> General Chemistry I	3	CE 111 Computer Applications for Civil Engineers	2
CHEM 113L General Chemistry I Lab	1	CE 111L Computer Applications for Civil Eng's Lab	1
PHYS 113 <sup>CR,2</sup> Physics for Scientists & Engineers I	3	PHYS 114 <sup>PR</sup> Physics for Scientists & Engineers II	3
PHYS 113L Physics for Scientists & Engineers I Lab	1	PHYS 114L <sup>PR</sup> Physics for Scientists & Engineers II Lab	1
MATH 129 <sup>2</sup> Calculus I	4	MATH 130 <sup>PR</sup> Calculus II	4
ENGR 150 Engineering Seminar	2	Core Course <sup>1</sup>	3
HCE 101 Holy Cross Experience	1	Core Course <sup>1</sup>	3
	<b>15</b>		<b>17</b>
Summer	Credits		
Fall	Credits	Spring	Credits
CE 200 <sup>PR</sup> Introduction to Civil Engineering	3	ENGR 350 <sup>PR</sup> Engineering Materials	3
CE 200L <sup>PR</sup> Introduction to Civil Engineering Lab	0.5	ENGR 350L <sup>PR</sup> Engineering Materials Lab	0.5
MATH 231 <sup>PR</sup> Calculus III	4	PHYS 242 <sup>PR</sup> Mechanics of Solids	3
MATH 238 <sup>PR</sup> Differential Equations	3	MATH 237 <sup>PR</sup> Math Methods for Physical Sciences	3
PHYS 241 <sup>PR</sup> Statics	3	ENGR 360 <sup>PR</sup> Probability & Engineering Statistics	3
Core Course <sup>1</sup>	3	ENST 202 Environmental Science II	3
		ENST 202L Environmental Science II Lab	1
		Core Course <sup>1</sup>	3
	<b>16.5</b>		<b>19.5*</b>
Summer	Credits		
Fall	Credits	Spring	Credits
CE 310 <sup>PR</sup> Fluid Mechanics	3	CE 360 <sup>PR</sup> Soil Mechanics	3
CE 310L <sup>PR</sup> Fluid Mechanics Lab	0.5	CE 325L <sup>PR, CR</sup> Materials and Soils Lab	1
CE 330 <sup>PR</sup> Project Mgmt & Engineering Economics	3	CE 340 <sup>PR</sup> Hydraulics and Hydrology	3
CE 300 <sup>PR</sup> Dynamics	3	CE 340L <sup>PR</sup> Hydraulics and Hydrology Lab	1
CE 320 <sup>PR</sup> Civil Engineering Materials	3	CE 350 Environmental Engineering	3
Core Course <sup>1</sup>	3	Core Course <sup>1</sup>	3
Core Course <sup>1</sup>	3	Core Course <sup>1</sup>	3
	<b>18.5*</b>		<b>17</b>
Summer	Credits		
Fall	Credits	Spring	Credits
CE 400 <sup>PR</sup> Structural Design and Analysis I	3	CE 410 <sup>PR</sup> Structural Design and Analysis II	3
CE 400L <sup>PR</sup> Structural Design and Analysis I Lab	1	CE 410L <sup>PR</sup> Structural Design and Analysis II Lab	1
CE 420 <sup>PR</sup> Transportation Engineering	3	CE 440 <sup>PR</sup> Senior Design	3
CE 450 <sup>PR</sup> Special Topics in CE or Core Course	3	CE 440L <sup>PR</sup> Senior Design Lab	1
Core Course <sup>1</sup>	3	CE 480 <sup>PR</sup> Senior Civil Engineering Seminar	1
Core Course <sup>1</sup>	3	Core Course <sup>1</sup> or CE 450 <sup>PR</sup> Special Topics in CE	3
		Core Course <sup>1</sup>	3
		Core Course <sup>1</sup>	3
	<b>16</b>		<b>18*</b>
<b>Total Credits Required for Graduation = 137.5</b>			

### NOTES:

\* Students are encouraged to take a summer course to relieve the credit load during this semester

<sup>1</sup>Choose one course from each of the Core Requirements listed on the reverse side.

<sup>2</sup> Course may satisfy both a Major and a Core requirement. CHEM 113 and PHYS 113 will satisfy the Scientific Endeavor and Science in Context Core requirements, MATH 129 will satisfy the Quantitative Reasoning Core requirement.

<sup>PR</sup> Course has a prerequisite – check college catalog.

<sup>CR</sup> Course has a co-requisite – check college catalog.