CIVIL ENGINEERING

What do civil engineers do? Civil engineers plan, design, construct, and maintain the built environment. Are you interested in a career that has lasting impact on others? Civil engineers help safeguard people through assisting with post disaster clean-up efforts. We design building systems, community parks, and arboretums. Civil engineers designed and led the construction of inspiring infrastructure including the Golden Gate Bridge, the Hoover Dam, and the Eiffel Tower. Civil engineers design structures, analyze the energy efficiency of building systems, study traffic patterns, and so much more. Regardless of what aspect of civil engineering one is involved with; civil engineers are all required to perform efficiently on a team, act ethically, and communicate effectively. Civil engineers are creative problem solvers!

What's great about careers in civil engineering?

Civil engineers are involved with so many different types of projects, we have opportunities to spend time on project sites or in an office setting, and the ability to customize a career path that aligns with personal interests. We have opportunities for career growth through professional licensure, pursuing graduate degrees, specialized technical training and certification programs, and management. In part due to aging infrastructure, civil engineers are in high demand with employment opportunities projected to grow by 11 percent between 2016 and 2026 (Bureau of Labor Statistics, 2019). Competitive salary and diverse job opportunities make civil engineering graduates highly sought after and lead to high job satisfaction rates.

What makes the King's Civil Engineering program different?

Authentic engineering experiences. Our students do design throughout the program. They use the tools that real engineers do, such as structural analysis and building information modeling software, AISC Steel Construction Manual and RS Means data, surveying equipment, and engineering measurement tools, to solve complex, open-ended problems.

Service learning projects. Civil engineers are deeply involved with designing and overseeing the construction of the built environment. Our students are assigned service learning projects that involve working with clients from the local community, while allowing students to begin working in a team to apply creative problem-solving skills.

Industry connections and networking opportunities. Our program is structured to allow students to gain perspective on what a civil engineering career involves. Construction site visits, engineering office tours, and opportunities to attend local professional engineering meetings are encouraged and a part of the classroom experience.

Integration of professional and technical skills. To design infrastructure that works for people, civil engineers need to start by understanding client's needs. They must work in teams to do the research, design, and analysis necessary to meet those needs. Communication and incorporating stakeholder feedback is an important component of a successful project. Therefore, our students don't just learn technical skills, they practice those skills in a professional context.

The engineering programs at King's take an interdisciplinary approach toward exposing students to the transferable skills of liberal learning that are cultivated in a King's College education. We want to instill in our students the values that King's College and the Congregation of Holy Cross represent. Our mission is to give our students a transformative experience by helping them develop the skills to start a career within the engineering profession, as well as a sense of social responsibility and a commitment to serve others.

Engineering is a noble and rewarding profession that enables practitioners to create value for society in a variety of ways that have a profound impact on human progress. Engineering can be viewed as both a profession and a vocation—a way to make a living, but also a call to service for the benefit of others. Consider joining us as we work toward engineering a better future.

To learn more about majoring in Civil Engineering at King's College,
please contact the Office of Admission at 1-888-KINGS PA or admissions@kings.edu.

Civil Engineering (137.5 Credit Hours)

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.

1st Year - Fall	cr.	1st Year - Spring	cr.
CHEM 113 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 Engs Lab	1
PHYS 113 Physics for Scientists & Engineers I	3	PHYS 114 Physics for Scientists & Engineers II	3
PHYS 113L Physics for Scientists & Engineers I Lab	1	PHYS 114L Physics for Scientists & Engineers II Lab	1
MATH 129 Calculus I	4	MATH 130 Calculus II	4
ENGR 150 Engineering Seminar	2	Core Course	3
HCE 101 Holy Cross Experience	1	Core Course	3
	15		17
2nd Year – Fall		**2nd Year – Spring**	
CE 200 Introduction to Civil Engineering	3	ENGR 350 Engineering Materials	3
CE 200L Introduction to Civil Engineering Lab	.5	ENGR 350L Engineering Materials Lab	.5
MATH 231 Calculus III	4	PHYS 242 Mechanics of Solids	3
MATH 238 Differential Equations	3	MATH 237 Math Methods for Physical Sciences	3
PHYS 241 Statics	3	ENGR 360 Probability & Engineering Statistics	3
Core Course	3	ENST 202 Environmental Science II	3
		ENST 202L Environmental Science II Lab	1
		Core Course	3
	16.5		19.5*
3rd Year – Fall		**3rd Year – Spring**	
CE 310 Fluid Mechanics	3	CE 360 Soil Mechanics	3
CE 310L Fluid Mechanics Lab	.5	CE 325L Materials and Soils Lab	1
ENGR 330 Project Mgmt & Engineering Economics	3	CE 340 Hydraulics and Hydrology	3
CE 300 Dynamics	3	CE 340L Hydraulics and Hydrology Lab	1
CE 320 Civil Engineering Materials	3	CE 350 Environmental Engineering	3
Core Course	3	Core Course	3
Core Course	3	Core Course	3
	18.5*		17
4th Year – Fall		**4th Year – Spring**	
CE 400 Structural Design and Analysis I	3	CE 410 Structural Design and Analysis II	3
CE 400L Structural Design and Analysis I Lab	1	CE 410L Structural Design and Analysis II Lab	1
CE 420 Transportation Engineering	3	CE 440 Senior Design	3
CE 450 Special Topics in CE or Core Course	3	CE 440L Senior Design Lab	1
Core Course	3	CE 480 Senior Civil Engineering Seminar	1
Core Course	3	Core Course or CE 450 Special Topics in CE	3
		Core Course	3
		Core Course	3
	16		18*
Total Credits Required for Graduation = 137.5			

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