CIVIL ENGINEERING

UNIVERSITY OF THE DISTRICT OF COLUMBIA
SCHOOL OF ENGINEERING AND APPLIED SCIENCES

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Accredited by the Engineering Accreditation Commission of ABET
http://www.abet.org

Civil Engineering (CE) is the oldest branch of the engineering profession that deals with planning, design, construction operation and maintenance of the built environment on which society depends. Many life-sustaining systems in our lives are the product of civil engineering. Civil Engineers plan, design, build, and maintain the infrastructure that makes a real difference in people's everyday lives. As a Civil Engineer, you can get employment in private and public sectors, government agencies, engineering design and construction companies. Many Civil Engineers have an entrepreneurial spirit and often establish their own design and construction business after accumulating some years of practical engineering experience. There is a significant demand for professionally licensed civil engineers in the Washington Metropolitan DC area, as well as nationally.

As a Civil Engineer, you will be required to have a strong technical background in math, science, and engineering principles, as well as excellent communication skills. During first and second years, focus is placed on strengthening general education, math, science and basic engineering skills. In third and fourth years, focus is placed on various subdisciplines of civil engineering that include structural, geotechnical, transportation, construction, water and environmental engineering.

In the senior year, you will apply all the knowledge, skills, and attitudes in designing real-world capstone projects. Our program emphasizes hands-on learning that excels in design.

Civil Engineering is a licensed professional career. You can be a Professional Engineer after successful completion of your bachelor's degree in civil engineering from an accredited program, and passing the Fundamentals of Engineering (FE) and Principles and Practice of Engineering (PE) examinations.

Your total 128-credit-hour curriculum consists of:

Basic Science and Mathematics 32
General Education (with Emphasis on freedom, responsibility and the pursuit of learning).....25
Basic Engineering/Technical electives..... 22
Civil Engineering Core 49

SUBDISCIPLINE COURSES OFFERED in Structural Engineering, Geotechnical Engineering, Construction Engineering, Transportation Engineering and Water Resources Engineering.

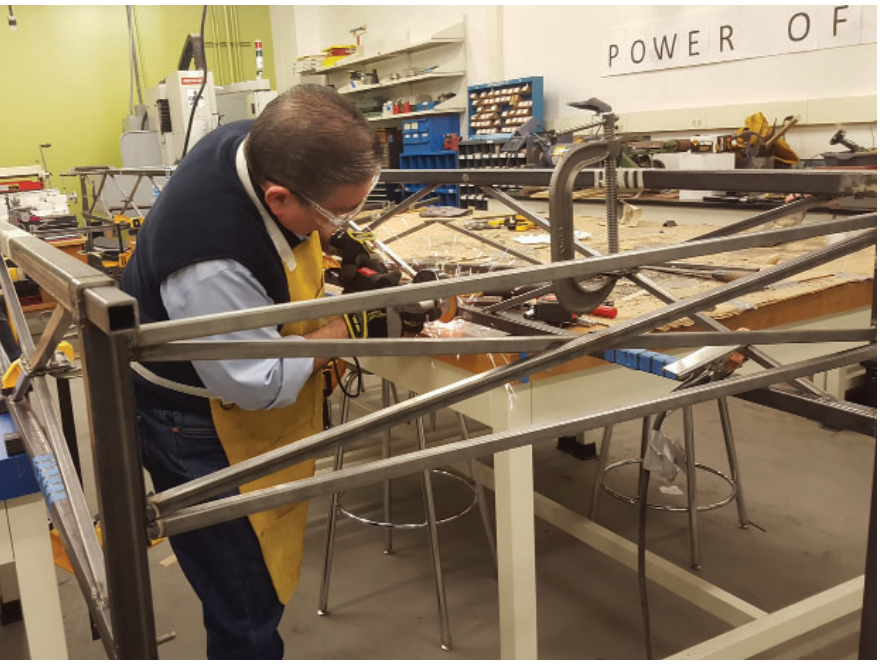
University of the District of Columbia
School of Engineering and Applied Sciences

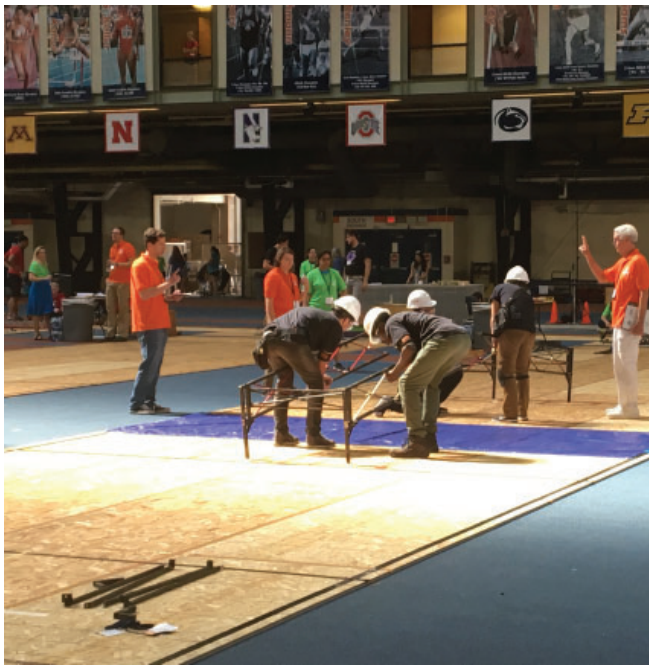
WHY CIVIL ENGINEERING AT UDC?

| UDC's Civil Engineering program is ABET-accredited | Student-focused | Affordable and accessible | Covers a wide range of CE topics | Average class size is around 20 | Lower tuition fees compared to other schools | High success rate in FE examination | Research opportunities for undergraduates | Scholarship opportunities | Convenient to Metropolitan DC Area residents |

Co-Curricular Activities - Student Chapters

- American Concrete Institute (ACI)
  Dr. Lei Wang *lei.wang@udc.edu*
- American Society of Civil Engineers (ASCE)
  Dr. Bryan Higgs *bryan.higgs@udc.edu*
- Water Environment Federation (WEF)
  Dr. Hossain Azam *hossain.azam@udc.edu*





What makes the UDC Civil Engineering program different?

The civil engineering program at UDC is designed with success of the individual student in mind. With smaller class sizes, students benefit from a personal teaching environment and individual attention.

How will my credits transfer?

Once you are enrolled, a civil engineering faculty member will evaluate your previous academic record and let you know about transfer credits. We have articulation agreements with metropolitan D.C. region community colleges, including Montgomery College and NOVA.

May I speak to a current UDC student?

Absolutely. Contact your faculty advisor to be connected with a continuing or recently graduated student who will share their experience with you.

"Being a part of the civil engineering family at UDC, I had some of the best years of my life. The family atmosphere created by professors and students helps you to excel in your studies."

~ RICHARD BARRETT, EIT. Civil Engineering | Class of 2013

For more information about earning a BS in the Civil Engineering visit www.udc.edu/seas or contact:

Department Chair, Dr. Pradeep Behera, PE
202-274-6186, pbehera@udc.edu

Program Director, Dr. Bryan Higgs
202-274-6600, bryan.higgs@udc.edu

Department Office, Ms. Veronica Williams
202-274-6286, vwilliams@udc.edu

UNIVERSITY OF THE DISTRICT OF COLUMBIA

SCHOOL OF ENGINEERING AND APPLIED SCIENCES

Department of Civil Engineering

CIVIL ENGINEERING PROGRAM

Effective Fall 2018

Student _____ **Student ID #** _____

Advisor _____ **Office:** _____

FIRST SEMESTER – FALL SEMESTER

Course #	Course Name	Credits	Grade
IGED-110	Found Writ Arts & Hum	3	
IGED-111	Found Writ Soc. & Nat Sc.	3	
CHEM-111	General Chemistry I Lec	3	
CHEM-113	General Chemistry I Lab	1	
MATH-151	Calculus I Lec	3	
MATH -155	Calculus I Lab	1	
CCEN-101	Intro to Engineering	2	
	Total	**16**	

THIRD SEMESTER – FALL SEMESTER

Course #	Course Name	Credits	Grade
IGED-210	Discov. Expo Writing	3	
MATH-254	Differential Equation	3	
PHYS-202	University Physics II Lec	3	
PHYS -206	University Physics II Lab	1	
CVEN-201	Engineering Mechanics I	3	
CSCI-135	Scientific Prog. (Lec&Lab)	3	
	Total	**16**	

FIFTH SEMESTER – FALL SEMESTER

Course #	Course Name	Credits	Grade
IGED-270	Discov. Loc/Glob Cul Div	3	
MATH-381	Probability & Statistics	3	
CVEN-311	Theory of Structures	3	
CVEN-325	Hydrology & Hydr Lec	3	
CVEN-327	Hydrology & Hydr Lab	1	
CVEN-351	Transportation Engineering	3	
	Total	**16**	

SEVENTH SEMESTER – FALL SEMESTER

Course #	Course Name	Credits	Grade
MECH-406	Engineering Economics	3	
CVEN-331	Geotech Engr Lec	3	
CVEN-332	Geotech Engr Lab	1	
CVEN-xxx	CE Technical Elective	3	
CVEN-481	FE Preparation	1	
CVEN-491	Sr. Project in Civil Eng. I*	3	
CVEN-xxx	CE Technical Elective (Res)	2	
	Total	**16**	

SECOND SEMESTER – SPRING SEMESTER

Course #	Course Name	Credits	Grade
IGED-130	Found Oral Comm.	3	
IGED-140	Found Ethics & Values	3	
MATH-152	Calculus II Lec	3	
MATH-156	Calculus II Lab	1	
PHYS-201	University Physics I Lec	3	
PHYS-205	University Physics I Lab	1	
CVEN-105	Comp Aid Graphics	3	
	Total	**17**	

FOURTH SEMESTER – SPRING SEMESTER

Course #	Course Name	Credits	Grade
CVEN-251	Science Elective*(UWQM)	4	
CVEN-202	Engineering Mechanics II.	3	
CVEN-206	Mechanics of Solids Lec	3	
CVEN-207	Mechanics of Solids Lab	1	
CVEN 244	C.E. Materials (Lec & Lab)	3	
CVEN 241	GIS Fund. & Eng. Appls.	3	
	Total	**17**	

SIXTH SEMESTER – SPRING SEMESTER

Course #	Course Name	Credits	Grade
IGED-280	Discov Civ/Ser/Team	3	
CVEN-308	Appl. Num Analysis	3	
CVEN-312	Design of Steel Struc	3	
CVEN-453	Traffic Engineering	3	
CVEN-442	Water Resources Eng.	3	
	Total	**15**	

EIGHTH SEMESTER – SPRING SEMESTER

Course #	Course Name	Credits	Grade
CVEN-435	Foundation Design	3	
CVEN-xxx	CE Technical Elective.	3	
CVEN-464	Eng. Ethics & Prof Practice	3	
CVEN-xxx	CE Technical Elective	3	
CVEN-492	Sr. Project in Civil Eng. II*	3	
	Total	**15**	

GRAND TOTAL CREDITS **128**

_____ _____

Advisor **Department Chair**

Date _____ **Date** _____

*Contains intensive writing component

CE Technical Electives (Most Current): CVEN 419, CVEN 490; CVEN-449, CVEN-475, CVEN-476, CVEN-441, CVEN-417, CVEN-418, CVEN-487, CVEN-448, CVEN-447,* Science Electives- CVEN-251 or ENSC-145&146

A completed copy of this form must accompany each student's Graduation Clearance Form

Civil Engineering Courses Pre-Reqs. and Co-Reqs.

Course No	Course Name	Co-Req	Pre- Req.
CCEN-101	*Introduction to Engineering*	-	
CVEN-105	*Computer-Aided Graphics*		
CVEN-201	*Engineering Mechanics-I*		PHYS-201
CVEN-202	*Engineering Mechanics-II*		CVEN-201
CVEN-206	*Mechanics of Solids Lec*	CVEN-207	CVEN-201
CVEN-207	*Mechanics of Solids Lab*	CVEN-206	CVEN-201
CVEN-241	*GIS Fund & Eng. Appls*		
CVEN-244	*CE Materials Lec & Lab*		
CVEN-308	*Applied Num. Anal. for Engineers*		MATH-254
CVEN-311	*Theory of Structures Lec*		CVEN-206/207
CVEN-312	*Design of Steel Structures*		CVEN-311
CVEN-325	*Hydrology and Hydraulics Lec*	CVEN-327	MATH-254, CVEN-206/207
CVEN-327	*Hydrology and Hydraulics Lab*	CVEN-325	
CVEN-331	*Principles of Geotechnical Engineering Lec*	CVEN-332	CVEN-325/327 CVEN-206/207
CVEN-332	*Principles of Geotechnical Engineering Lab*	CVEN-331	
CVEN-351	*Transportation Engineering*		CVEN-206 CVEN-202
MECH-406	*Engineering Economics*		Sr. Standing
CVEN-419	*Design of Concrete Structures*		CVEN-312
CVEN-435	*Foundation Design*		CVEN-331/332
CVEN-442	*Water Resources Engineering*		CVEN-325/327
CVEN-453	*Traffic Engineering*		CVEN-351
CVEN-464	*Engineering Ethics and Professional Practice*		Sr. Standing
CVEN-475	*Project Planning and Scheduling*		Sr. Standing
CVEN-476	*Construction Project Mgmnt.*		Sr. Standing
CVEN-491	*CE Senior Project – I*		CVEN-442 & CVEN-312 or CVEN-453 Sr. Standing
CVEN-492	*CE Senior Project -II*		CVEN-491 Sr. Standing