COMPUTER ENGINEERING

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

Computer engineering is a wide discipline that provides society with many critical utilities and has impact on public welfare and safety, as well as on health and healthcare, the environment, quality of life, transportation, computing, and leisure. Computer engineers create innovative technology solutions that have brought us modern life and urgently needed today to help solve a variety of global problems. If interested in learning how computing devices, cell phones, robots, digital audio, computer networks, or search engines work and bring ideas to life, is the major for you.

Computer engineering graduates work in private and public sectors, government agencies, and companies with focus on all aspects of computational devices and systems including hardware and software, notebook computers, music players (iPod), embedded systems, game consoles (Wii), robotics, computer generated imagery (Pixar), virtual reality, integrated circuits, and computer networking.

As a computer engineer, you will be required to have a strong technical background in math, science, and engineering principles as well as excellent communication skills. The program is designed to permit studies over a broad base of fundamental sub-disciplines including communications, solid state electronics, wireless sensors, signal processing, digital electronics, and solar energy.

The program emphasizes hands-on learning and excellence in design. During first and second years, focus is placed on strengthening your math, science and basic engineering. In the third and fourth years, focus on computer design and capstone senior design.

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 ……………………………….............……13
Technical electives …………………………………….........…9
Computer Engineering Core ……………………….............49

WHY A BS IN COMPUTER ENGINEERING AT UDC?
• Student-focused campus mission • Covers a wide range of electrical and computer engineering topics • Average class size is less than 15 • Lower tuition fees compared to other schools • Convenient to Metropolitan DC Area residents
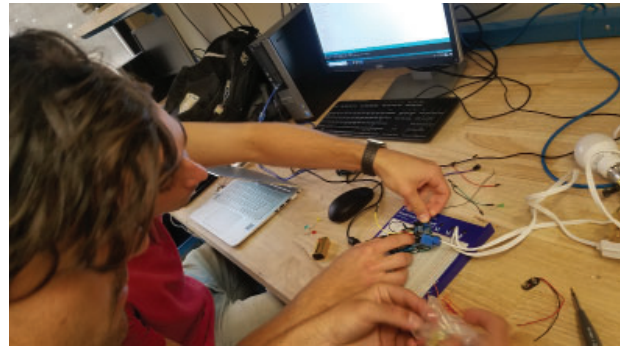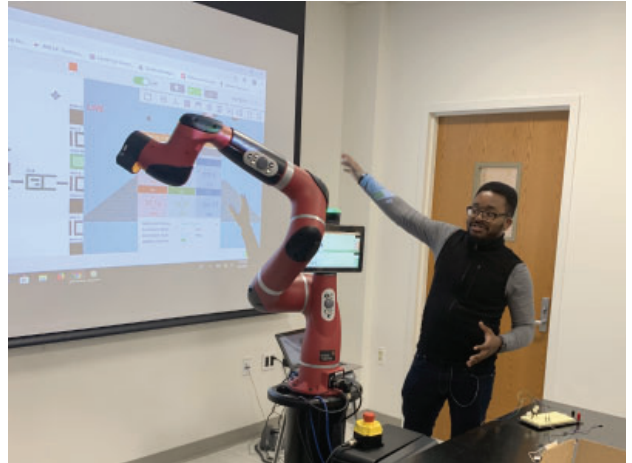
What makes UDC's Computer Engineering program different?

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

How will my credits transfer?

Once you are enrolled, an computer engineering faculty member will evaluate your previous courses and academic record and let you know about transfer credits.

May I speak to a current UDC student?

Contact the undergraduate program director to be connected with a continuing or recently graduated student who will share their experience with you.

Grants

NSF Targeted Infusion Project grant
NSF Research Initiation Award grant
Department of Defense Grant
NSF HBCU-UP - UDC STEM Center

Research Assistant Opportunity

$15/hour, 20 hours/week during Spring and Fall semesters and $15/hour, 40 hours/week during summer

Scholarship

Microsoft Scholarship Opportunity for Computer Engineering

For more information about BS in the Computer Engineering, visit www.udc.edu/seas or contact:

Department Chair, Dr. Paul Cotae
202-274-6290, pcotae@udc.edu

Program Director, Dr. Wagdy Mahmoud
202-274-6535, wmahmoud@udc.edu

Department Office, Ms. Clara Cooper
202-274-5740, cvcooper@udc.edu

University of the District of Columbia, 4200 Connecticut Avenue NW, Washington, D.C. 20008, www.udc.edu
Office of Admissions, Telephone: 202-274-6155, Email: UDCadmissions@udc.edu, www.udc.edu/admit

Program   <u>Computer Engineering</u>
Name of Student _____   Student ID # _____
Name of Advisor _____   Room # _____

First Semester				Second Semester			
Course #	Subject	Credits	Grade	Course #	Subject	Credits	Grade
IGED 110	Found. Writing I	3		IGED 111	Found. Writing II	3	
CHEM 111	General Chemistry I Lec.	3		MATH 152	Calculus II Lec.	3	
CHEM 113	General Chemistry I Lab	1		MATH 156	Calculus II Lab	1	
MATH 151	Calculus I Lec.	3		PHYS 201	University Physics I Lec.	3	
MATH 155	Calculus I Lab	1		PHYS 205	University Physics I Lab	1	
CCEN 101	Intro. to Engineering	2		APCT 231	Intro. to Comp. Sci. I Lec	3	
IGED 130	Found. Oral Comm.	3		APCT 233	Intro. to Comp. Sci. I Lab	1	
TOTAL CREDITS		16		**TOTAL CREDITS**		15	

Third Semester				Fourth Semester			
Course #	Subject	Credits	Grade	Course #	Subject	Credits	Grade
IGED 210	Discovery Writing	3		IGED 140	Foundation Ethics	3	
MATH 220	Discrete Mathematics	3		MATH 260	Diff. Eq. with Linear Alg.	4	
PHYS 202	University Physics II Lec.	3		CSCI 241	Data Structure	3	
PHYS 206	University Physics II Lab	1		ELEC 358	Dig. &Ana. Electr. Lec.	3	
APCT 232	Intro. to Comp. Sci. II Lec	3		ELEC 359	Dig. &Ana. Electr. Lab	1	
APCT 234	Intro. to Comp. Sci. II Lab	1		ELEC 360	Emb. Pro Sys Design	3	
ELEC 225	Electrical Circuits Lec.	3					
ELEC 226	Electrical Circuits Lab	1					
TOTAL CREDITS		18		**TOTAL CREDITS**		17	

Fifth Semester				Sixth Semester			
Course #	Subject	Credits	Grade	Course #	Subject	Credits	Grade
ELEC 301	Engineering Mathematics	3		ELEC 371	Signals and Systems Lec.	3	
CSCI 341	Software Engineering	3		ELEC 374	Signals and Systems Lab	1	
ELEC 315	Comp. Organization Lec.	3		ELEC 307	Prob. and Stat. for Eng.	3	
ELEC 316	Comp. Organization Lab	1		ELEC 480	Dig. Design & Synth. Lec.	3	
????	Programming Language for Engineers II (Python)	2		ELEC 483	Dig. Design & Synth. Lab	1	
				CSCI xxx	CS Elective***	3	
IGED 270	Discovery Diversity	3		IGED 280	Discovery Civics	3	
TOTAL CREDITS		15		**TOTAL CREDITS**		17	

Seventh Semester				Eighth Semester			
Course #	Subject	Credits	Grade	Course #	Subject	Credits	Grade
ELEC 478	Dig. Int. Cir. Des. Lec.	3		ELEC 459	Dig. Comp. Arch. & Design	3	
ELEC 479	Dig. Int. Cir. Des. Lab	1		CSCI 412	Operating System	3	
ELEC 431	Cyber Physical Sys. Lec.	3		ELEC 492	Senior Project II (Capst.)*	3	
ELEC 432	Cyber Physical Sys. Lab	1		ELEC xxx	Elec. Eng. Electives**	3	
ELEC 491	Senior Project I (Capst.)*	3					
ELEC xxx	Elec. Eng. Electives**	4		MECH 406	Engineering Economics	3	
TOTAL CREDITS		15		**TOTAL CREDITS**		15	

TOTAL CREDITS   **128**