

ELECTRICAL ENGINEERING

Computer Engineering option

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



BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

with Computer Engineering option

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

Computer Engineering is a wide discipline that provides society with many critical utilities. Computer Engineering has significant impacts on national defense and security, computing systems, consumer electronics, transportation, health and healthcare, as well as leisure. Computer Engineers create innovative technology solutions that enhance the quality of modern life, and they are urgently needed today to help solve a variety of global problems. Are you interested in learning how computing devices, cell phones, robots, digital audio, computer networks, or search engines work? Do you enjoy working to bring new ideas to life? If so, this is the major to pursue!

As a Computer Engineer you can find employment in private and public sectors, government agencies, and beyond. Computer Engineering graduates focus on all aspects of computational devices and systems, consumer electronics, transportation, mobile communication systems and all systems employing embedded processing systems, hardware and software, i.e., notebook computers, music players and HDTV, embedded systems, game consoles, robotics, image processing and virtual reality systems, and computer networking.

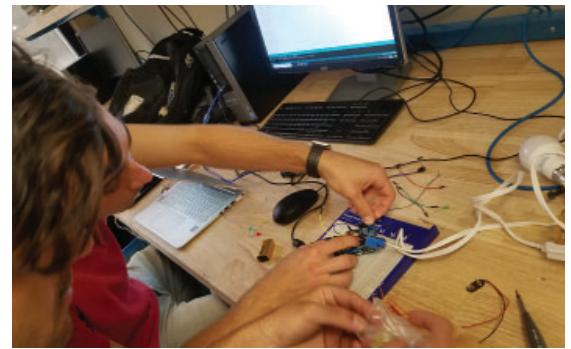
As a Computer Engineer, you will be required to have a strong technical background in math, science, and engineering principles, as well as excellent communication skills. The UDC Computer Engineering undergraduate program is designed to permit studies over a broad base of fundamental subdisciplines of various areas of the topic that include communications, solid state electronics, wireless sensors, signal processing, digital electronics, and solar energy.

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
Computer Engineering Core	49

WHY A BS IN ELECTRICAL ENGINEERING AT UDC?

- UDC Electrical Engineering program is ABET-accredited •
- 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 Electrical Engineering program different?

The electrical engineering program at UDC is designed with the 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, an electrical 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.

"My goal was to excel academically. It is one of the reasons why every time I was told that a specific field was geared towards men, I would do my best to join that field, and do extremely well in it. It is also the reason why I chose the University of the District of Columbia, an excellent institution, with accredited engineering programs that could give me a top education at an affordable price."

~ FATOU MBENGUE | Class of 2009

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

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

Program Director, Dr. Sasan Haghani
202-274-6595, shaghani@udc.edu

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

**UNIVERSITY OF THE DISTRICT OF COLUMBIA
SCHOOL OF ENGINEERING AND APPLIED SCIENCES
Department of Electrical and Computer Engineering
OFFICIAL ADVISORY FORM (Starting Fall 2017)**

Program ELECTRICAL ENGINEERING (OPTION: Computer Engineering)
 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		APCT 232	Intro. to Comp. Sci. II Lec	3	
PHYS 206	University Physics II Lab	1		APCT 234	Intro. to Comp. Sci. II Lab	1	
CVEN 201	Engineering Mechanics I	3		ELEC 241	Assembly Language and Microprocessor Lec.	3	
ELEC 225	Electrical Circuits Lec.	3		ELEC 242	Assem. Lang.&Micro lab	1	
ELEC 226	Electrical Circuits Lab	1					
TOTAL CREDITS		17		TOTAL CREDITS		15	

Fifth Semester				Sixth Semester			
Course #	Subject	Credits	Grade	Course #	Subject	Credits	Grade
ELEC 301	Engineering Mathematics	3		CVEN 308	Applied Numerical Analysis for Engineers	3	
ELEC 315	Comp. Organization Lec	3		ELEC 352	Electronics II Lec	3	
ELEC 316	Comp. Organization Lab	1		ELEC 354	Electronics II Lab	1	
ELEC 351	Electronics I Lec	3		ELEC 307	Prob. and Stat. for Eng.	3	
ELEC 353	Electronics I Lab	1		ELEC 371	Signals and Systems Lec.	3	
IGED 270	Discovery Diversity	3		ELEC 374	Signals and Systems Lab	1	
				IGED 280	Discovery Civics	3	
TOTAL CREDITS		17		TOTAL CREDITS		17	

Seventh Semester				Eighth Semester			
Course #	Subject	Credits	Grade	Course #	Subject	Credits	Grade
ELEC 467	Fund. of Comm. Lec	3		ELEC 459	Dig. Comp. Arch.& Design	3	
ELEC 476	Fund. of Comm. Lab	1		ELEC 496	Senior Project II (Capst.)*	3	
ELEC 478	Dig. Int. Cir. Des. Lec	3		ELEC xxx	Elec. Eng. Electives**	4	
ELEC 479	Dig. Int. Cir. Des. Lab	1		CSCI xxx	CS Elective***	3	
ELEC 480	Dig. Design & Synth. Lec.	3		MECH 406	Engineering Economics	3	
ELEC 483	Dig. Design & Synth. Lab	1					
ELEC 495	Senior Project I (Capst.)*	3					
ELEC xxx	Elec. Eng. Electives**	3					
TOTAL CREDITS		18		TOTAL CREDITS		16	

TOTAL CREDITS

128

*Contains intensive writing component

** Electrical Engineering Electives (most current): ELEC410/510, ELEC 420/520, ELEC 458, ELEC 461/462, ELEC 463, ELEC 469/473, ELEC 470/477, ELEC 471, ELEC 474, MECH 487, MECH 478, or equivalent.

***Computer Science Electives: To be selected from Operating Systems, Digital Image Processing, Networking, or equivalent

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

Computer Engineering Program Required Courses, Pre-Requisites, and Co-requisites

Course #	Pre-Requisites	Co-requisites
CCEN 101	Engineering Freshman Status	None
CVEN 201	PHYS 201, PHYS 205	None
ELEC 225	PHYS 201, PHYS 205	ELEC 226
ELEC 226	PHYS 201, PHYS 205	ELEC 225
ELEC 241	APCT 231, and APCT 233	ELEC 242
ELEC 242	APCT 231, and APCT 233	ELEC 241
ELEC 301	MATH 152, MATH 156, MATH 260	None
ELEC 307	MATH 152, MATH 156	None
CVEN 308	MATH 260	None
ELEC 315	ELEC 221, ELEC 223	ELEC 316
ELEC 316	ELEC 221, ELEC 223	ELEC 315
ELEC 351	ELEC 225, ELEC 226	ELEC 353
ELEC 352	ELEC 351, ELEC 353	ELEC 354
ELEC 353	ELEC 225, ELEC 226	ELEC 351
ELEC 354	ELEC 351, ELEC 353	ELEC 352
ELEC 356	PHYS 203, PHYS 207	
ELEC 361	PHYS 201, PHYS 205, ELEC 225, ELEC 226	
ELEC 371	ELEC 351, ELEC 353, ELEC 301	ELEC 374
ELEC 374	ELEC 351, ELEC 353, ELEC 301	ELEC 371
MECH 406	Senior Standing	
ELEC 459	ELEC 241, ELEC 242, ELEC 315, ELEC 316	
ELEC 467	ELEC 307, ELEC 371, ELEC 374	ELEC 476
ELEC 476	ELEC 307, ELEC 371, ELEC 374	ELEC 467
ELEC 478	ELEC 315, ELEC 316, ELEC 352, ELEC 354	ELEC 479
ELEC 479	ELEC 315, ELEC 316, ELEC 352, ELEC 354	ELEC 478
ELEC 480	ELEC 315, ELEC 316	ELEC 483
ELEC 483	ELEC 315, ELEC 316	ELEC 480
ELEC 495	ELEC 315, ELEC 316, ELEC 352, ELEC 353, ELEC 371, ELEC 374	None
ELEC 496	ELEC 495	None

Approved Elective Courses Pre-Requisites and Co-requisites

Course #	Pre-Requisites	Co-requisites
ELEC 410	ELEC 467 or permission of the Instructor	
ELEC 420	ELEC 352, ELEC 354	None
ELEC 458	ELEC 371, ELEC 374	None
ELEC 461	ELEC 352, ELEC 354	ELEC 462
ELEC 462	ELEC 352, ELEC 354	ELEC 461
ELEC 463	ELEC 352, ELEC 354, ELEC 361	None
ELEC 469	ELEC 467, ELEC 476, ELEC 307	ELEC 473
ELEC 470	ELEC 371, ELEC 374	ELEC 477
ELEC 471	ELEC 470, ELEC 473	
ELEC 473	ELEC 467, ELEC 476, ELEC 307	ELEC 469
ELEC 477	ELEC 371, ELEC 374	ELEC 470
MECH 478	ELEC 352, ELEC 354, ELEC 315, ELEC 316	
MECH 487	Permission of instructor	