

**ELECTRICAL ENGINEERING** 

Bachelor of Science (B.S.) – Catalog Year Fall 2019

### FOR TRANSFER STUDENTS

## **PROGRAM OVERVIEW**

The Bachelor of Science in Electrical Engineering, provides an ABET-accredited undergraduate education to a diverse group of students of different racial and cultural backgrounds, full-time students as well as those who have considerable work and family commitments outside their academic learning and students with a wide variety of work experiences. The department strives to continually update our program of study to qualify our graduates for technical positions in the Denver metropolitan area and beyond, while also providing sufficient breadth and depth to assure our graduates of success in their chosen profession. The electrical engineering program stresses the rigorous scientific and theoretical foundations of the discipline so our graduates can enter any advanced level educational program with the critical thinking skills needed for success. In addition, the program includes interdisciplinary work. Our electrical engineering graduates are productive engineers who can advance their careers on different professional tracks in the engineering industry.

### ACADEMIC ADVISING

Students admitted to the College of Engineering, Design and Computing (CEDC) who have declared a major should meet with an advisor in their specific department and should contact that department to schedule an appointment.

Electrical Engineering

<u>electrical@ucdenver.edu</u> Visit the academic advising website <u>here</u> North Classroom 2615 303-315-7520 Students admitted to the College of Engineering, Design and Computing as pre-engineers or who are undecided should meet with a college academic advisor.

Engineering Student Services Center (ESSC)

ESSC@ucdenver.edu Visit the academic advising website <u>here</u> North Classroom 2605 303-315-7510

## **GENERAL GRADUATION REQUIREMENTS & POLICIES**

All College of Engineering, Design and Computing (CEDC) students are required to complete the following minimum general graduation requirements:

- 1. Complete a minimum of 120 semester hours
- 2. Achieve a minimum 2.0 grade point average (GPA) for all courses attempted, for all required courses and for all courses taken within the student's major department
- 3. Complete all CU Denver Core, CEDC, and major requirements
- 4. Complete a minimum of 30 CEDC hours as a declared CEDC student in good standing at CU Denver
- 5. Complete at least the final two semesters as an enrolled CEDC student

## **PROGRAM REQUIREMENTS & POLICIES**

The following program requirements are based on degree requirements for the current Catalog year at CU Denver and are subject to change. Students are responsible for completing degree requirements based on the Catalog year for which they are admitted.

**Students are responsible for meeting with the faculty advisor in their department to confirm major requirements**. Students completing the Mechanical Engineering B.S. Degree are required to complete the following minimum program requirements:

- 1. Complete a minimum of 128 semester hours of course work.
- 2. Complete 24 semester hours of CU Denver Core Curriculum coursework.
- 3. Complete a minimum of 30 semester hours of pre-major coursework.
- 4. Complete a minimum of 74 semester hours of electrical engineering coursework.
- 5. Complete a minimum of 40 EE hours as a declared CEDC student in good standing at CU Denver

## COURSEWORK THAT CAN BE COMPLETED AT PREVIOUS INSTITUTION

The following is a "bucket" of requirements students can complete prior to transferring to CU Denver, including equivalent Colorado Community College System (CCCS) courses. To determine the equivalencies of courses to be completed at non-CU Denver institutions, students can visit <u>www.transferology.com</u>. It is critical students connect with a CU Denver academic advisor to ensure planned courses will transfer *and* apply to CU Denver degree requirements. All non-CU Denver coursework must be completed with a C- or better to be eligible for transfer.

Students interested in completing an Associate (A.A. or A.S.) Degree or a <u>Colorado Statewide Transfer Articulation Agreement or Degree with</u> <u>Designation (DWD)</u> must work with their community/junior college academic advisor to create an academic plan that accounts for all degree or transfer articulation agreement requirements. Colorado Community College Students may also explore the option to complete <u>Reverse Transfer</u> at CU Denver.



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CU Denver Requirements	CU Denver Credits	CCCS Equivalent Courses & Notes	CCCS Credits
CU Denver Core Curriculum Requirements	24		
ENGL 1020 – Core Composition I	3	ENG 121	3
ENGL 2030 – Core Composition II	3	ENG 122	3
Arts	3	GT-AH	3
Humanities	3	GT-AH or GT-HI	3
Behavioral Sciences	3	GT-SS	3
Social Sciences	3	GT-SS or GT-HI*	3
International Perspectives	3	Additional GT-AH, HI, SS* (see note below)	3
Cultural Diversity	3	To be completed at CU Denver. This requirement must be completed with an upper-division course and CCCS courses will not apply.	
Required Mathematics and Basic Sciences Courses	30		
MATH 1401 Calculus I	4	GT-MA1 ( <i>MAT 201</i> )	5
MATH 2411 Calculus II	4	GT-MA1 ( <i>MAT 202</i> )	5
MATH 2421 Calculus III	4	GT-MA1 ( <i>MAT 203</i> )	4
MATH 3195 Linear Algebra and Differential Equations	4	MAT 266	4
ENGR 1130 Chemistry for Engineers	5	GT-SC1 (CHE 111)	5
PHYS 2311 & 2321 General Physics I with lab	5	GT-SC1 (PHY 211)	5
PHYS 2331 & 2341 General Physics II	4	GT-SC1 (PHY 212)	5
Total Hours:	54		

\*The applicability of Guaranteed Transfer (GT Pathways) courses to specific CU Denver Core Curriculum requirements requires completion of a block of five courses: two GT-AH course; one GT-HI course; one GT-SS course; and one additional GT-AH, GT-HI, or GT-SS course.

## SAMPLE PLAN – COURSEWORK TO BE COMPLETED AT CU DENVER

**Based on successful completion of applicable transfer credits** <u>and</u> the complete "bucket" of requirements outlined above, students would have the following remaining to complete at CU Denver. At CU Denver, students must tailor this plan based on the evaluation of previously completed college coursework (e.g., AP, IB, CLEP, dual/concurrent enrollment, and transfer credit), course availability, individual preferences related to course load, summer term courses, part-time or full-time student status, or add-on programs such as minors or double-majors.

Students deviating from this plan must fulfill course prerequisites and must meet with the faculty advisor in their department to confirm degree requirements. Students intending to transfer to CU Denver to pursue an Electrical Engineering B.S. degree should note the following:

- 1. The College of Engineering, Design and Computing has a competitive admissions process. Student may be admitted to CU Denver but not the College of Engineering, Design and Computing. Such students may work with CU Denver's Academic Success and Advising Center to identify an alternative major and/or program of study.
- 2. Colorado Community College students should transfer to CU Denver once they have met the College of Engineering, Design and Computing's admission requirements. They should not necessarily complete an associate's degree.

ē	Fall	CRS
	MATH 2411 Calculus II	4
hre	ELEC 1510 Logic Design	3
Year Three	PHYS 2311/2321 General Physics I & Lab	5
ea	ENGR 3400 Technology & Culture	3
7	ELEC 2531 Logic Lab	1
	TOTAL	16

Spring	CRS
ELEC 1520 Embedded Systems I	3
Math 2421 Calculus III	4
ELEC 2132 Circuits Analysis I	3
PHYS 2331 Gen. Physics II	4
ENGR Science Elective	3
TOTAL	17



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	Fall	CRS
	ELEC 2142 Circuits II	3
<u>ـ</u>	ELEC 2552 Sophomore Circuits Lab	1
no	ELEC 2520 Embedded Systems Engr. II	3
Year Four	International Perspectives	3
	MATH 3195 Linear Alg./Differential Eq.	4
-	ELEC 3215 Electronics I Fall only course	3
	TOTAL	17

Year Five	Fall	CRS
	ELEC 3817 Probability and Statistics-Fall only Course	3
	ELEC 4309 Senior Design I project Fall only course	3
	ELEC 3735 Junior Lab	1
	ELEC Specialty 4xxx & Lab	4
ľ	Professional Elective	3
	ELEC Specialty	3
	TOTAL	17

UDENTS		
Spring		CRS
ELEC 3133 Electromagnetic Fields		3
ELEC 3225 Electronics II Spring only course		3
ELEC 3316 Linear Systems		3
ELEC 3715 Electronics Lab		1
ELEC 3651 Digital Hardware Design		3
ELEC 3164 Energy Conversion		3
ELEC 3724 Energy Conversion Lab		1
	TOTAL	17

Spring	CRS
ELEC 4319 Senior Design II projects Spring only course	3
ELEC Specialty 4xxx	3
ELEC Specialty 4xxx	3
ELEC Specialty & Lab	4
Cultural Diversity	3
Professional Elective	3
TOTAL	19

Total Hours at CU Denver: 103