College of Engineering, Design and Computing
UNIVERSITY OF COLORADO DENVER

MECHANICAL ENGINEERING

Bachelor of Science (B.S.) – Catalog Year 2020-2021

FOR TRANSFER STUDENTS

PROGRAM OVERVIEW

The Mechanical engineering offers interesting and challenging career opportunities in research, design, development, manufacturing, testing and marketing for either private industry or government. As a mechanical engineer, you may work on products such as engines, transmissions, compressors, pumps, computer disk drives, CAD/CAE software, oil field drilling rigs, missiles, space satellites, earth moving equipment, container manufacturing machines and medical equipment.

The Bachelor of Science (BS) in mechanical engineering curriculum begins with a strong emphasis on mathematics, physics and chemistry. It continues with a concentration in engineering sciences, including solid and fluid mechanics; thermodynamics, heat and mass transport; materials; and systems analysis and control. It concludes with laboratory and design courses which demonstrate the ways in which scientific knowledge is applied in the design and development of useful devices and manufacturing processes.

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.

Mechanical Engineering
mechanicalengineering@ucdenver.edu
Visit the academic advising website here
North Classroom 2024
303-315-7500

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 here
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 31 semester hours of required mathematics and basic science courses with a grade of C- (2.0) or better in each course.
4. Complete a minimum of 73 semester hours of MECH core curriculum coursework, including 12 semester hours of elective coursework in an approved mechanical engineering track. All prerequisite courses must be completed with a grade of C- or better.

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 www.transferology.com. **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 Colorado Statewide Transfer Articulation Agreement or Degree with Designation (DWD) 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 Reverse Transfer 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	**31**		
MATH 1401 Calculus I	4	GT-MA1 *(MAT 201)*	5
MATH 2411 Calculus II	4	GT-MA1 *(MAT 202)*	5
MATH 2421 Calculus III	4	GT-MA1 *(MAT 203)*	4
MATH 3195 Linear Algebra and Differential Equations	4	MAT 266	4
ENGR 1130 Engineering Chemistry	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 with lab	5	GT-SC1 (PHY 212)	5
Total Hours:	**55**		

***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 and 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 a Mechanical 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.

Year Three	Fall	CRS
	MATH 2421 Calculus III	4
	MECH 1025: Engineering Graphics and CAD	3
	MECH 2024: Materials Science	3
	MECH 2034: Properties of Materials Lab	1
	MECH 2023: Statics	3
	TOTAL	14

Spring	CRS
MATH 3195: Linear Algebra and Differential Equations	4
MECH 1045: Manufacturing	3
MECH 3043: Strength of Materials	3
MECH 2033: Dynamics	3
PHYS 2331/2341 General Physics II with Lab	5
TOTAL	18

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Year Four

Fall	CRS
MECH 3012: Thermodynamics I	3
MECH 3010: Elem. Numerical Methods & Programming	3
ELEC 3030/MECH 3032: Electric Circuits & Systems w/Lab	4
MECH Technical Elective	3
Cultural Diversity	3
TOTAL	16

Spring	CRS
MECH 3021 Introduction to Fluid Mechanics	3
MECH 3031: Fluids Thermal Lab	1
MECH 3022: Thermodynamics II	3
MECH 3035: Design Of Mechanical Elements	3
MECH 3023: System Dynamics I	3
TOTAL	13

Year Five

Fall	CRS
MECH 4023: System Dynamics II	3
MECH 4035: Senior Design I	3
MECH 3042: Heat Transfer	3
MECH Technical Elective	3
MECH Technical Elective	3
TOTAL	15

Spring	CRS
MECH 4045: Senior Design II	3
MECH 3027/MECH 3028: Measurements w/Lab	4
MECH 4142: Thermal Systems Design	3
MECH Technical Elective	3
TOTAL	13

Total Hours at CU Denver: 89