Engineering at Colorado Mesa University

coloradomesa.edu/engineering/
Computer Science & Engineering Department

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**Construction Management**
The discipline of planning, organizing, directing and controlling the labor, material and equipment required to construct and deliver a construction project.

**Computer Science**
The study of algorithms, data structures, and software design to control, store, and transmit digital information and content.

**Engineering**
The application of scientific principles for the design of products and systems to solve problems and achieve practical goals.

Email IRIS for recordings of presentations from CS and/or CM
Engineering Programs

B.S.  Mechanical Engineering Technology
A.A.S.  Mechanical Engineering Technology

University of Colorado
Boulder

B.S.  Civil Engineering
B.S.  Electrical & Computer Engineering
B.S.  Mechanical Engineering
Why Engineering? Why CMU?

Problem solving (make the world a better place)
State-of-the art facilities
Hands-on instruction
Small class sizes
Collaborations with industry
Beautiful location
Fun
CMU/CU Engineering Partnership

Two years as a CMU student (freshman & sophomore years)
• Math, Physics, Chemistry & Lower-division Engineering Courses
• Taught by CMU faculty, pay tuition to CMU, receive CMU scholarships

Two years as a CU student (junior & senior years)
• Upper-division Engineering Courses
• Taught by CU faculty, pay tuition to CU, receive CU scholarships

All 4 (or 5) years resident in Grand Junction at CMU
CMU/CU Engineering Partnership

Two ways to be admitted into CMU/CU Engineering Partnership Programs

Scenario One:
A student may apply to the partnership program if they have achieved all three of the following conditions:
1. Completion of a two-course sequence in calculus at CMU with a grade of ‘B’ or higher, and
2. Completion of two physical science courses at CMU (calculus-based physics and/or college chemistry) with a grade of ‘B’ or higher, and
3. Overall GPA of 3.0 or better for all courses at CMU

Scenario Two:
A student may apply to the partnership program under the following conditions:
1. Completion of the sequence of courses listed on the current curriculum plan for the first two years at CMU, and
2. Combined GPA in these courses not lower than a 3.0, and
3. Overall CMU cumulative GPA not lower than a 3.0
MAPS* Requirements for CU Boulder

CU requires 3 units of a foreign language**

3 years of a foreign language in high school
OR
3 semesters of a foreign language in college

If you do not meet this requirement, talk to academic advisor as soon as possible

If you took only 2 years in high school, you’ll need to do one of the following:

• Take 1 semester of the next course in the sequence (Spanish 1 and 2 in HS requires Spanish 3 at CMU)
• Take 2 semesters of a different language at CMU (Spanish 1 and 2 in HS requires two semesters of French or German or Japanese, etc. at CMU)

College-level foreign language courses may count as required elective courses

Complete this requirement prior to graduation from CU

* Minimum Academic Preparation Standards
** If you are fluent in a foreign language, you may take a fluency test to satisfy this requirement
# Engineering Programs

<table>
<thead>
<tr>
<th>Degree Awarded by</th>
<th>BS CE</th>
<th>BS ECE</th>
<th>BS ME</th>
<th>BS MET</th>
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<tbody>
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<td>CU Boulder</td>
<td>CU Boulder</td>
<td>CMU</td>
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<tr>
<td>Accreditation Body</td>
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<td>EAC of ABET *</td>
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<table>
<thead>
<tr>
<th>Math (higher than college algebra and trigonometry)</th>
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<th>BS ME</th>
<th>BS MET</th>
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<td>3 semesters of Calculus + Diff. Eq./Linear Alg.</td>
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<td>2 semesters **</td>
<td>2 semesters **</td>
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<td>1/2 semester</td>
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<th>Required Project-Based Courses</th>
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<th>BS MET</th>
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<td>2 semesters</td>
<td>6 semesters (min)</td>
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<th>BS MET</th>
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<td>FE/PE ready</td>
<td>FE/PE ready</td>
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<td>FE/PE ready in some states</td>
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<td>128</td>
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</table>

* Program will gain accreditation after first cohort graduates

** Assumes ≥ ACT English 27 or SATRW 630 or AP English 4 or IB English 4. If not, students will have to also have to take ENGL 111 and 112 (for 4 semesters total)
Spectrum of Engineering

AAS in Mechanical Engineering Technology

BS in Mechanical Engineering Technology

BS in Mechanical Engineering

Source: National Academy of Engineering
Program sheet shows suggested sequencing for a 4-year plan
4-year program assumes you come in ready to take Calculus 1
4-year engineering program has higher than normal credit loads each semester

At 14 credit hours:
- 14 hours in class + 28 hours outside of class
- \( 14 + 28 = 42 \) hours a week

At 18 credit hours:
- 18 hours in class + 36 hours outside of class
- \( 18 + 36 = 54 \) hours a week

It’s ok to plan on 5 (or 6) years to complete an engineering degree!
# Suggested Courses – 1st Semester

## B.S. CE
- **MATH 135** (4 credits) (per placement test, prior credit, or AP/IB exam score)
- **CHEM 151 and 151L** (5 credits) (per placement test, prior credit, or AP/IB exam score)
- **ENGR 101** (1 credit)
- **CIVE 127** (3 credits) (if registered for MATH 113 or higher)
- **SOCI 120** (3 credits)

## B.S. ECE
- **MATH 135** (4 credits) (per placement test, prior credit, or AP/IB exam score)
- **PHYS 131 and 131L** (5 credits) (per placement test, prior credit, or AP/IB exam score)
- **ENGR 101** (1 credit)
- **HUM/SS Elective (Lower Division)** (3 credits)
- **SOCI 120** (3 credits)

## B.S. ME
- **MATH 135** (4 credits) (per placement test, prior credit, or AP/IB exam score)
- **CHEM 151 and 151L** (5 credits) (per placement test, prior credit, or AP/IB exam score)
- **ENGR 101** (1 credit)
- **MAMT 102** (1 credit)
- **ENGR 125** (3 credits) (if registered for MATH 113 or higher)

## B.S. MET
- **MATH 135** (4 credits) (per placement test, prior credit, or AP/IB exam score)
- **ENGR 125** (3 credits) (if registered for MATH 113 or higher)
- **MAMT 105** (2 credit)
- **MAMT 106** (2 credit)
- **KINE 100** (1 credit)
ENGR 101 Intro to Engineering

1 credit

Fall semester only (Monday afternoons)

Explore different disciplines of engineering via assignments, guest speakers, etc. to help you figure out which program to choose

Meet with your advisor and lay out your program of study

Transfer students with credit for course should retake

Take sooner rather than later
NCAA Athletes Pursuing CU Degree

You cannot pursue a degree from one school & compete as an athlete for another

Seek the engineering degree from CU & seek a BA Liberal Arts in General Studies degree from CMU

- Engineering credits from CMU and CU transfer to BA Liberal Arts degree to satisfy elective credits
- Two foreign language classes (6 credits) required
- ENGL 111 and 112 (6 credits) required
- Essential learning requirements at CMU (history, fine arts, English, social and behavioral sciences, and the Maverick Milestone and speech class) (16 credits) required
- KINE 100 and KINA 1XX courses (2 credits) required
- Some of these classes count as humanities/Social Science courses for the CU degree in addition to satisfying the BA Liberal Arts requirements

If eligible as an athlete the last year of your degree, 30 of last 60 credits of your degree must be CMU credits

Talk to your advisor and make a plan sooner rather than later
Faculty Advisors

Automatically assigned to each student
Faculty members in your discipline

Meet with your advisor:
- Before registration
- After unsatisfactory Early Alert reports and/or after your first exam results
- Before the withdraw deadline
- Anytime during office hours for general advice or help!
Internship Opportunities & Professional Experience

Internships are not required to graduate but encouraged

https://www.coloradomesa.edu/engineering/internships.html
https://www.coloradomesa.edu/career/students/handshake.html

Mechanical Engineering Technology majors *may* be able to use internship experiences as restricted elective credit

Civil Engineering “Build-your-professional-future” seminars

Senior design course provides industry connections

Industry advisory council for each engineering discipline
Student Clubs

Society of Women Engineers
https://www.facebook.com/SWECMU/

Mesa Motorsports
https://www.facebook.com/CMUFSAE/

Civil Engineering Club

Engineers Without Borders

3D Printing Club

ASCE Student Chapter

AISC Student Chapter

Tau Beta Pi Engineering Honor Society

Computer Science Club
Questions?

coloradomesa.edu/engineering/