

# Best Choices Guide

## Mechanical Engineering (BS)

The Associate of Engineering Science Degree in Mechanical Engineering program is designed for students who wish to earn an AES at a Colorado Community College and transfer to UCCS to finish a bachelor of science degree in Mechanical Engineering. Please note that final graduation requirements for the bachelor's degree will be based on your year of admission to UCCS. Contact [transfer@uccs.edu](mailto:transfer@uccs.edu) for more information.

To earn the Associate of Engineering Science Degree, students must complete the following course requirements for a total minimum of 64 semester credit hours, at least 30 of which must be general education courses and at least 15 must be from Colorado State-Guaranteed courses. Courses taken at other colleges, AP, IB, CLEP, DSST, and other sources of credit may not be applicable upon transfer to UCCS even if applied to the associate's degree at the Colorado Community College (CCC). Check the CDHE's [GT Pathways](https://www.cdhe.state.co.us/gt-pathways) website for more information.

| General Education Courses<br>(42 hours)                                                     | CCCS Courses                                                                                         | CCCS credit hours | UCCS course equivalents                                 |
|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------|
| <b>Written Communication</b><br>(3 hours)                                                   | Complete one (1) course from:<br>• ENG 1021 or ENG 1022<br>• ENG 1031                                | 3                 | ENGL 1310 or ENGL 1410<br>TCID 2090                     |
| <b>Mathematics</b><br>(18 hours)                                                            | Complete all four (4) of the following:<br>• MAT 2410<br>• MAT 2420<br>• MAT 2430<br>• MAT 2562      | 5<br>5<br>4<br>4  | MATH 1350<br>MATH 1360<br>MATH 2350<br>MATH 3130 & 3400 |
| <b>Arts &amp; Humanities</b><br>(3 hours)                                                   | Complete one (1) course from:<br>• PHI 2018 Environmental Ethics or<br>• any GT-AH course            | 3                 | Humanities & Sustainability course<br>Humanities course |
| <b>Social &amp; Behavioral Sciences</b><br>(3 hours)                                        | Complete one (1) course from:<br>• ECO 2002 or<br>• ECO 2001 or<br>• any GT-SS course                | 3                 | ECON 1010 or<br>ECON 2020 or<br>Social Science course   |
| <b>Physical and Life Sciences</b><br>(15 hours)                                             | Complete all three (3) of the following:<br>• PHY 2111<br>• PHY 2112<br>• CHE 1111                   | 5<br>5<br>5       | PES 1110<br>PES 1120<br>CHEM 1401 & 1402                |
| Additional Required Courses<br>(22-23 hours)                                                | CCCS Courses                                                                                         | CCCS credit hours | UCCS course equivalents                                 |
| Courses required for the Associate of Engineering Science degree in Mechanical Engineering. | EGG 1020 (Methods)                                                                                   | 3                 | MAE 1502                                                |
|                                                                                             | EGG 2011 (Statics)                                                                                   | 3                 | MAE 2103                                                |
|                                                                                             | EGG 2012 (Dynamics)                                                                                  | 3                 | MAE 2104                                                |
|                                                                                             | EGG 230/2020 (Thermodynamics)                                                                        | 3                 | MAE 2301                                                |
|                                                                                             | EGT 1110 (Intro Design)                                                                              | 3                 | MAE 1503                                                |
|                                                                                             | CSC 1060 (Computer Science I)                                                                        | 4                 | MAE 1090                                                |
|                                                                                             | AES elective – choose 1 from:<br>a. EGG 2041 (4) (recommended)<br>b. EGG 2030 (3)<br>c. BUS 2016 (3) | 3-4               | a. MAE 2055 (4)<br>b. MAE 3201 (3)<br>c. BLAW 2000 (3)  |

### Additional Resources

- Visit the UCCS Transfer website at [Transfer Admissions](https://www.uccs.edu/transfer)
- Contact a Transfer Advisor at [transfer@uccs.edu](mailto:transfer@uccs.edu)

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## Four-Year Degree Plan - Mechanical Engineering

The following four-year plan lists all the specific course requirements for the Bachelor of Science in Mechanical Engineering degree at UCCS. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary.

**NOTE: Please be aware that completing this program as outlined here will require an additional 3 credit hours to complete the Mechanical Engineering degree due to differences in hours for math and science courses.**

### Suggested First Year

| FALL |                                     |              | SPRING |              |              |
|------|-------------------------------------|--------------|--------|--------------|--------------|
| ✓    | Course                              | Hours        | ✓      | Course       | Hours        |
|      | EGG 1020                            | 3            |        | EGT 1110     | 3            |
|      | MAT 2410                            | 5            |        | MAT 2420     | 5            |
|      | CHE 1111                            | 5            |        | PHY 2111     | 5            |
|      | ENG 1021 or ENGL 1022 or ENGL 1031* | 3            |        | GT-AH course | 3            |
|      |                                     | <b>TOTAL</b> |        |              | <b>TOTAL</b> |
|      |                                     | 16           |        |              | 16           |

### Suggested Second Year

| FALL |                                            |              | SPRING |                         |              |
|------|--------------------------------------------|--------------|--------|-------------------------|--------------|
| ✓    | Course                                     | Hours        | ✓      | Course                  | Hours        |
|      | EGG 2011                                   | 3            |        | EGG 2012                | 3            |
|      | MAT 2430                                   | 4            |        | MAT 2562                | 4            |
|      | PHY 2112                                   | 5            |        | CSC 1060                | 4            |
|      | AES elective – EGG 2041 highly recommended | 4            |        | AES elective – EGG 2020 | 3            |
|      |                                            |              |        | GT-SS course            | 3            |
|      |                                            | <b>TOTAL</b> |        |                         | <b>TOTAL</b> |
|      |                                            | 16           |        |                         | 17           |

### Suggested Third Year

| FALL |                                                                          |              | SPRING |                                                             |              |
|------|--------------------------------------------------------------------------|--------------|--------|-------------------------------------------------------------|--------------|
| ✓    | Course                                                                   | Hours        | ✓      | Course                                                      | Hours        |
|      | MAE 2055 or MAE 3201**<br>(whichever wasn't taken at CCCS)               | 3            |        | MAE 3201 or BUS 2016<br>(whichever wasn't taken at CCCS)    | 3            |
|      | MAE 2200                                                                 | 3            |        | MAE 3005                                                    | 3            |
|      | MAE 3302                                                                 | 3            |        | MAE 3401                                                    | 3            |
|      | MAE 4020                                                                 | 3            |        | ENGR 3040                                                   | 3            |
|      | TCID 2090 or ENGL 1310 or ENGL 1410*<br>(whichever wasn't taken at CCCS) | 3            |        | Technical Elective                                          | 3            |
|      |                                                                          |              |        | Humanities/Social Science elective ( <i>Inclusiveness</i> ) | 3            |
|      |                                                                          | <b>TOTAL</b> |        |                                                             | <b>TOTAL</b> |
|      |                                                                          | 15           |        |                                                             | 18           |

### Suggested Fourth Year

| FALL |                      |              | SPRING |                        |              |
|------|----------------------|--------------|--------|------------------------|--------------|
| ✓    | Course               | Hours        | ✓      | Course                 | Hours        |
|      | MAE 3130             | 4            |        | MAE 4310               | 4            |
|      | MAE 3501             | 3            |        | MAE 4120               | 3            |
|      | MAE 4000             | 1            |        | MAE 4511 (spring only) | 3            |
|      | MAE 4421             | 3            |        | Technical Elective     | 3            |
|      | MAE 4510 (fall only) | 2            |        | Technical Elective     | 3            |
|      | Technical Elective   | 3            |        |                        |              |
|      |                      | <b>TOTAL</b> |        |                        | <b>TOTAL</b> |
|      |                      | 16           |        |                        | 16           |

### Transfer Completion

After completing the AES, you should be able to complete the remainder of your BS degree in Mechanical Engineering in two additional years, if you have followed the transfer plan in its entirety. However, most students take 1 to 3 classes in the summer to relieve their spring and fall semester loads.

\*ENGL 1310 or ENGL 1410 and TCID 2090 are required for the BS at UCCS.

\*\*MAE 2055 is a prerequisite for MAE 3201, so it is highly recommended that EGG 2041 be taken for one of the AES electives before transferring to UCCS.