About This Major . . .

The objective of the Mechanical Engineering Technology Program is to provide the knowledge necessary to apply state-of-the-art techniques to design and build products and systems to meet the current and future needs of society. The Bachelor of Science Degree in Mechanical Engineering Technology is designed for a student who is doer or implementer - one who is able to apply mathematics, the natural and engineering sciences, engineering principles, and current engineering practices to the solution of design problems and to the operation and testing of mechanical systems.

The Mechanical Engineering Technology graduate applies established procedures that use current state-of-the-art techniques to work with mechanical systems. Laboratory courses are an integral component of the Mechanical Engineering Technology program and are designed to develop student competence to apply experimental design methods, as well as provide a “hands-on” approach to designing and building products and systems to meet the current and future needs of society. The employment of METs in manufacturing related areas should increase as the demand for improved machinery and machine tools grows and industrial machinery and processes become increasingly complex. Emerging technologies in biotechnology, and nanotechnology will create new job opportunities for METs. In addition to job openings from growth, many openings should result from the need to replace workers who leave the labor force. For more information on what you can do with this major, go to http://www.coloradomesa.edu/career/whatmajor.html

All CMU baccalaureate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply the knowledge, techniques, skills, and modern tools of engineering to engineering problems. (Critical Thinking/Applied Learning)
2. Apply knowledge of mathematics, science, and technology to engineering problems. (Quantitative Fluency)
3. Effectively use oral, written, and graphical communication skills to address both technical and non-technical audiences. (Communication Fluency)
4. Apply the ethical standards of the discipline to engineering problems. (Specialized Knowledge)
Student should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

Degree Requirements:

- 125 semester hours total (A minimum of 28 taken at CMU)
- 40 upper division credits (A minimum of 15 taken within the major at CMU)
- 2.00 cumulative GPA or higher in all CMU coursework
- 2.00 cumulative GPA or higher in coursework toward the major content area

Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.

When filling out the program sheet a course can be used only once.

A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.

- See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

GENERAL EDUCATION REQUIREMENTS (31 semester hours)

See the current catalog for a list of courses that fulfill the requirements below. If a course is on the general education list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the general education requirement.

Course No Title Sem.hrs Grade Term

English (6 semester hours, must receive a grade of “C” or better and must be completed by the time the student has 60 semester hours.)
ENGL 111 English Composition 3
ENGL 112 English Composition 3
(ENGL 129, Honors English, may be substituted for ENGL 111 & ENGL 112.)

Math: (3 semester hours, must receive a grade of “C” or better, must be completed by the time the student has 60 semester hours.)
MATH 119 Pre-Calculus 5*
*3 credits apply to the General Ed requirements and 2 credits apply to Foundation Courses

Humanities (3 semester hours)

Social and Behavioral Sciences (6 semester hours)

Natural Sciences (7 semester hours, one course must include a lab)
PHYS 111/111L or PHYS 131/131L
PHYS 131/131L or CHEM 121
CHEM 131 or CHEM 121

*2 credits apply to the General Ed requirements and 2 credits apply to Foundation Courses

History (3 semester hours)

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Fine Arts (3 semester hours)

OTHER LOWER DIVISION REQUIREMENTS (6 semester hours)

Kinesiology (3 semester hours)
KINE 100 Health and Wellness
KINA 1
KINA 1

Applied Studies (3 semester hours)
SPCH 102 Speechmaking 3

FOUNDATION COURSES (22 semester hours) Must complete with a “C” or higher.

CHEM 131 or CHEM 121
CHEM

*2 credits apply to the General Ed requirements and 2 credits apply to foundation courses

CHEM 131L or CHEM 121L
CHEM

MAMT 115 Intro to Machine Shop 3
MATH 119 Pre-Calculus 2*

*3 credits apply to the General Ed requirements and 2 credits apply to foundation courses

MATH 135 Engineering Calculus I 4
MATH 136 Engineering Calculus II 4
STAT 200 Probability and Statistics 3
WELD 151 Industrial Welding 3

MECHANICAL ENGINEERING TECHNOLOGY MAJOR REQUIREMENTS (66 semester hours) Must pass all courses with a grade of “C” or higher.

Basic Engineering Courses (17 semester hours)
ENGR 101 Introduction to Engineering 2
ENGR 125 CAD and Fabrication 3
ENGR 140 First-Year Engr. Projects 3
ENGR 224 Materials Science 2
ENGR 224L Materials Science Lab 1
ENGR 261 Statics and Structures 3
ENGR 263 Mechanics of Solids 3

MET Courses (30 semester hours)
ENGR 312 Thermodynamics 3
ENGR 317 Fund of Heat and Fluid Mech 3
ENGR 321 Fluid Mechanics 3
ENGR 325 Component Design 3
ENGR 343 Dynamics 3
ENGR 426 Manuf. Processes & Sys 3
ENGR 435 Industrial Controls 3
ENGR 436 Fluid & Elec. Power Sys 3
ENGR 445 MET Design Proj I 3
ENGR 485 MET Design Proj II 3

Other Required Courses (12 semester hours)
CSCI 130 Intro to Engineering Computing 3
ENGL 425 Scientific Writing 3
MAMT 151 Numerical Control Mach I 3
MAMT 155 Numerical Control Mach II 3

MET Technical Electives (7 semester hours, must be upper-division)

Choose from any upper-division natural or physical science, math or engineering course in consultation with your advisor.

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**SUGGESTED COURSE SEQUENCING FOR A MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY**

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hours</th>
<th>Spring Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 101   Intro to Engineering</td>
<td>2</td>
<td>MATH 135   Engineering Calculus I</td>
<td>5</td>
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<tr>
<td>MATH 119   Pre-Calculus</td>
<td>5</td>
<td>ENGL 112   English Composition</td>
<td>4</td>
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<tr>
<td>ENGL 111   English Composition</td>
<td>3</td>
<td>ENGR 140   First-Year Engr. Projects</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 125   CAD and Fabrication</td>
<td>3</td>
<td>MAMT 115   Intro to Machine Shop</td>
<td>3</td>
</tr>
<tr>
<td>KINE 100   Health and Wellness</td>
<td>1</td>
<td>WELD 151   Industrial Welding</td>
<td>3</td>
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<tr>
<td>General Education History</td>
<td>3</td>
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### SOPHOMORE YEAR

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<tr>
<th>Fall Semester</th>
<th>Hours</th>
<th>Spring Semester</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 136   Engineering Calculus II</td>
<td>4</td>
<td>CSCI 130   Intro to Engineering Computing</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 131or 111 Fundamental Mechanics</td>
<td>4</td>
<td>MAMT 151   Numerical Controls Mach I (1st Mod)</td>
<td>3</td>
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<tr>
<td>PHYS 131L or 111L Fundamental Mech Lab</td>
<td>1</td>
<td>MAMT 155   Numerical Controls Mach II (2nd Mod)</td>
<td>3</td>
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<tr>
<td>CHEM 121 or 131 General Chemistry</td>
<td>4</td>
<td>KINA 1**   Activity</td>
<td>1</td>
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<tr>
<td>CHEM 121L or 131L General Chemistry Lab</td>
<td>1</td>
<td>ENGR 261   Statics and Structures</td>
<td>3</td>
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<td></td>
<td>14</td>
<td>SOCI 120Technology and Society</td>
<td>2</td>
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### JUNIOR YEAR

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<th>Hours</th>
<th>Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>ENGR 263   Mechanics of Solids</td>
<td>3</td>
<td>ENGR 325   Component Design</td>
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<tr>
<td>ENGR 224   Materials Science</td>
<td>3</td>
<td>ENGR 343   Dynamics</td>
<td>3</td>
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<tr>
<td>ENGR 317   Fundamentals of Circuits and Elec</td>
<td>3</td>
<td>ENGR 312   Engineering Thermodynamics</td>
<td>3</td>
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<tr>
<td>ENGR 321   Fluid Mechanics</td>
<td>3</td>
<td>SPCH 102   Speechmaking</td>
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<tr>
<td>STAT 200   Probability and Statistics</td>
<td>3</td>
<td>ENGL 425   Scientific Writing</td>
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<tr>
<td>General Education Humanities</td>
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### SENIOR YEAR

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<th>Hours</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>ENGR 445   Senior Project 1</td>
<td>3</td>
<td>ENGR 485   Senior Project 2</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 426   Manufacturing Proc &amp; Sys</td>
<td>3</td>
<td>ENGR 436   Fluid and Elec. Power Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 435   Industrial Controls</td>
<td>3</td>
<td>MET Technical Elective</td>
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</tr>
<tr>
<td>MET Technical Elective</td>
<td>4</td>
<td>General Education Social Science</td>
<td>3</td>
</tr>
<tr>
<td>KINA 1**   Activity</td>
<td>1</td>
<td>General Education Fine Arts</td>
<td>3</td>
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<td>14</td>
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**POLICIES:**

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the Catalog for a complete list of graduation requirements.
2. You must turn in your “Intent to Graduate” form to the Registrar’s Office by **September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.**
3. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.
4. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the Department Head or the department administrative assistant will take the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)
6. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.
7. **NOTE:** The semester before graduation, you will be required to take a Major Field Achievement Test (exit exam).