ENGINEERING TECHNOLOGY - MECHANICAL - BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

MET (https://et.nmsu.edu/academics/mechanical-engineering-technology-met) majors learn theory and applications in the fields of manufacturing, product design and development, power systems, machinery, and fluid technology. Our students take courses in mechanisms and machines, computer aided modeling, heat transfer, and instrumentation, to name a few. They find employment in the design and testing of tools, engines, machines, and other complex mechanical devices. MET represents one of the broadest engineering technology disciplines. Our MET students also learn by designing and racing mini-baja cars, designing and constructing machines to help our farmers, and even building systems in other countries.


Requirements (124 Total Credits)

General Education

State of New Mexico Common Core

Area I: Communications
ENGL 111G Rhetoric and Composition 4
Written Communications Elective (ENGL 218G Recommended) 1
Oral Communications Elective (COMM 265G Recommended) 1

Area II: Mathematics - see below

Area III: Laboratory Science
CHEM 110G Principles and Applications of Chemistry 4
PHYS 211G General Physics I 3
or PHYS 215G Engineering Physics I
PHYS 211GL General Physics I Laboratory 1
or PHYS 215GL Engineering Physics I Laboratory

Areas IV & V: Social and Behavioral Sciences & Humanities and Fine Arts: Select 15 total credits from Area IV and V, with at least 6 credits from each area:

Area IV: Social and Behavioral Sciences:
ECON 251G Principles of Macroeconomics (Strongly Recommended)
or ECON 252G Principles of Microeconomics

Area V: Humanities and Fine Arts:

Institution Specific General Education

Viewing a Wider World Electives (must be from two different Colleges) 1

Strongly Recommended Courses:
Elective I: Select one Business Administration, Business Law, Finance or Management Elective
Elective II: Select one from the following:

AG E 337V Natural Resource Economics
EPWS 380V Science & Society
PHYS 303V Energy and Society in the New Millennium
PHIL 323V Engineering Ethics (strongly recommended)
HIST 302V Science in Modern Society

Program Specific Requirements

Mathematics
MATH 235 Calculus for the Technical Student I 3
MATH 236 Calculus for the Technical Student II 3

Natural Science
PHYS 212G General Physics II 3
or PHYS 216G Engineering Physics II
PHYS 212GL General Physics II Laboratory 1
or PHYS 216GL Engineering Physics II Laboratory

Technical
A ST 311 Statistical Applications 3
ENGR 100 Introduction to Engineering 3
I E 451 Engineering Economy 3
Technical Electives - must be upper division and pre-approved 3

Engineering Technology
E T 110 Introduction to 3-D Modeling (Solid Works) 2 3
E T 182 Digital Logic 2 3
E T 190 Applied Circuits 2 4
E T 217 Manufacturing Processes and Manufacturing Processes Lab 4
E T 210 Intermediate 3-D Modeling (Solid Works) 3
E T 240 Applied Statics 3
E T 241 Applied Dynamics 3
E T 262 Software Technology I 2 3
E T 305 Introduction to Product Design 2 3
E T 306 Fundamental and Applied Thermodynamics and Thermodynamics Lab 4
E T 308 Fluid Technology and Fluid Technology Lab 4
E T 310 Applied Strength of Materials and Applied Strength of Materials Lab 4
E T 328 Kinematics of Machines 2 3
E T 396 Heat Transfer and Applications 2 3
E T 402 Instrumentation 3
E T 410 Senior Seminar 1
E T 426 Analysis and Design of Machine Elements 2 3
E T 435 Senior Project 2 3

Total Credits 124

1 See the required courses (http://catalogs.nmsu.edu/nmsu/essential-information-students/general-education-courses) section of the catalog for a full list of courses.

2 Courses with built-in laboratory component.
See a MET advisor or the pre-approved list in the ETSE office.

### Recommended Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>CHEM 110G</td>
<td>Principles and Applications of Chemistry</td>
<td>4</td>
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<tr>
<td>E T 110</td>
<td>Introduction to 3-D Modeling (Solid Works)</td>
<td>3</td>
</tr>
<tr>
<td>E T 182</td>
<td>Digital Logic</td>
<td>3</td>
</tr>
<tr>
<td>E T 190</td>
<td>Applied Circuits</td>
<td>4</td>
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<tr>
<td>ENGL 111G</td>
<td>Rhetoric and Composition</td>
<td>4</td>
</tr>
<tr>
<td>E T 210</td>
<td>Intermediate 3-D Modeling (Solid Works)</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 100</td>
<td>Introduction to Engineering</td>
<td>3</td>
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<tr>
<td>PHYS 211G</td>
<td>General Physics I and General Physics I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Humanities &amp; Fine Arts Elective</td>
<td>3</td>
</tr>
<tr>
<td>E T 217</td>
<td>Manufacturing Processes</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 217 L</td>
<td>Manufacturing Processes Lab</td>
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<tr>
<td></td>
<td>Credits</td>
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<td>Total Credits</td>
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### Concentration: Renewable Energy Technologies

Students can fulfill the requirements for the Renewable Energy Technologies concentration within the ET M majors by judicious selection of the three required technical electives. The selection of these electives will not require any additional credits beyond those of the major.

#### Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>E T 381</td>
<td>Renewable Energy Technologies</td>
<td>3</td>
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<tr>
<td>Select three</td>
<td>(9 credits) from the following:</td>
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<tr>
<td>E T 365</td>
<td>Building Utilities</td>
<td></td>
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<tr>
<td>WERC 466</td>
<td>Fuel Cell and Hydrogen Technology</td>
<td></td>
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<tr>
<td>E T 382</td>
<td>Solar Energy Technologies</td>
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<tr>
<td>E T 384</td>
<td>Wind and Water Energy Technologies</td>
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<tr>
<td>E T 401</td>
<td>Heating and Air-Conditioning Systems</td>
<td></td>
</tr>
<tr>
<td>or M E 401</td>
<td>Heating/Air-Conditioning System</td>
<td></td>
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<tr>
<td>E T 435</td>
<td>Senior Project</td>
<td>3</td>
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<tr>
<td>or E T 420</td>
<td>Senior Internship</td>
<td></td>
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<td>Total Credits</td>
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</tbody>
</table>

* E T 420 Senior Internship must be completed within a field of renewable energy field and/or Capstone Design Project must be related to a renewable energy application.