

# MECHANICAL ENGINEERING TECHNOLOGY - BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

Mechanical Engineering Technology (<https://et.nmsu.edu/academics%20/mechanical-engineering-technology.html>) MET (<https://et.nmsu.edu/academics%20/mechanical-engineering-technology.html>) (<https://et.nmsu.edu/academics%20/mechanical-engineering-technology.html>) 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 designing and testing 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.

The Mechanical Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org/>), under the General Criteria and Program Criteria for *Mechanical Engineering Technology and Similarly Named Programs*.

## Mechanical Engineering Technology - (No Concentration)

Prefix	Title	Credits
<b>General Education</b>		
<i>Area I: Communications</i> <sup>1</sup>		
<i>English Composition - Level 1</i>		
ENGL 1110G	Composition I	4
<i>English Composition - Level 2</i>		
ENGL 2210G	Professional and Technical Communication Honors (Recommended)	3
<i>Oral Communication</i>		
COMM 1115G	Introduction to Communication	3
<i>Area II: Mathematics</i> <sup>1</sup>		
MATH 1435 or MATH 1511G	Applications of Calculus I <sup>2</sup> Calculus and Analytic Geometry I	3 - 4
<i>Area III: Laboratory Sciences</i> <sup>1</sup>		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	8
PHYS 1230G & PHYS 1230L or PHYS 1310G & PHYS 1310L	Algebra-Based Physics I and Algebra-Based Physics I Lab Calculus -Based Physics I and Calculus -Based Physics I Lab	
<i>Area IV: Social/Behavioral Sciences</i> <sup>1</sup>		
Strongly Recommended:		
ECON 1110G	Survey of Economics	
PHLS 1110G	Personal Health & Wellness	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
<i>Area V: Humanities</i> <sup>1</sup>		
		3

Strongly Recommended:

PHIL 1120G	Logic, Reasoning, & Critical Thinking	
PHIL 2110G	Introduction to Ethics	
<i>Area VI: Creative and Fine Arts</i> <sup>1</sup>		
ARTS 1145G	Visual Concepts (Strongly Recommended)	3
<i>General Education Elective</i>		
MATH 1440 or MATH 1521G	Applications of Calculus II Calculus and Analytic Geometry II	3 - 4
<b>Viewing A Wider World</b> <sup>1</sup>		
<b>6</b>		
<i>Strongly Recommended Courses:</i>		
BFIN 303V	Personal Financial Planning and Investing in a Global Economy	
MGMT 310V	Entrepreneurial Mindset	
MGMT 388V	Leadership and Ethics	
MKTG 311V	Consumer Behavior	
<b>Departmental/College Requirements</b>		
A ST 311	Statistical Applications	3
ET 101	Introduction to Engineering Technology and Geomatics	1
ET 182	Introduction to Digital Logic	2
ET 184	Applied AC Circuits	2
ET 210	Advanced 3-D Modeling (Solid Works)	3
ET 217 & 217 L	Manufacturing Processes and Manufacturing Processes Lab	4
ET 305	Introduction to Product Design	3
ET 306 & 306 L	Fundamental and Applied Thermodynamics and Thermodynamics Lab	4
ET 308 & 308 L	Fluid Technology and Fluid Technology Lab	4
ET 310 & 310 L	Applied Strength of Materials and Applied Strength of Materials Lab	4
ET 396	Heat Transfer and Applications	3
ET 402	Instrumentation	3
ET 410	Senior Seminar	1
ET 426	Analysis and Design of Machine Elements	3
ENGR 110	Introduction to Engineering Design	3
ENGR 120	DC Circuit Analysis	4
ENGR 140	Introduction to Programming and Embedded Systems	4
ENGR 190	Introduction to Engineering Mathematics	4
ENGR 233	Engineering Mechanics I	3
ENGR 234	Engineering Mechanics II	3
ENGR 401	Engineering Capstone I	3
ENGR 402	Engineering Capstone II	3
IE 451	Engineering Economy	3
PHYS 1240G & PHYS 1240L or PHYS 1320G & PHYS 1320L	Algebra-Based Physics II and Algebra-Based Physics II Lab Calculus -Based Physics II and Calculus -Based Physics II Lab	4
<i>Technical Electives</i> <sup>4</sup>		
E T 317	Advanced Manufacturing and Design	9
E T 381	Renewable Energy Technologies	
E T 401	Building Energy and Environment	
E T 480	Innovation and Product Development	
<b>Electives, to bring the total credits to 120</b>		
<b>0</b>		
<b>Total Credits</b>		<b>122-124</b>

<sup>1</sup> See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses. See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses.

<sup>2</sup> Students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I/MATH 1435 Applications of Calculus I or MATH 1521G Calculus and Analytic Geometry II/MATH 1440 Applications of Calculus II before enrolling in either option of coursework.

*\*For students wishing to pursue a technical master's degree, MATH 1511G Calculus and Analytic Geometry I and MATH 1521G Calculus and Analytic Geometry II are recommended and will satisfy both the Area II and General Education Elective requirements. Students who take MATH 1435 Applications of Calculus I and MATH 1440 Applications of Calculus II, will need to have an exception made for their degree audit.*

<sup>3</sup> Elective credit may vary based on Math course selection, prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However, students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

<sup>4</sup> Concentrations and Minors are 'optional' educational sequences that students may choose to focus in particular areas related to their major. Concentrations and Minors may often be done without additional credits by judicious use of electives and other optional course requirements.

## A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

### First Year

Fall		Credits
ET 101	Introduction to Engineering Technology and Geomatics	1
ENGL 1110G	Composition I (Area I) <sup>1</sup>	4
ENGR 110	Introduction to Engineering Design	3
ENGR 120	DC Circuit Analysis	4
ENGR 190	Introduction to Engineering Mathematics	4
<b>Credits</b>		<b>16</b>
Spring		Credits
Area IV: Social/Behavioral Sciences (see recommended list) <sup>1</sup>		3
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	4
COMM 1115G	Introduction to Communication (Area I)	3
ET 182	Introduction to Digital Logic	2
MATH 1435 or MATH 1511G	Applications of Calculus I <sup>2</sup> or Calculus and Analytic Geometry I	3 - 4
<b>Credits</b>		<b>15-16</b>

### Second Year

Fall		Credits
ENGR 140	Introduction to Programming and Embedded Systems	4
ENGR 233	Engineering Mechanics I	3
MATH 1440 or MATH 1521G	Applications of Calculus II <sup>2</sup> or Calculus and Analytic Geometry II	3 - 4
PHYS 1230G & PHYS 1230L or PHYS 1310G and PHYS 1310L	Algebra-Based Physics I or Calculus -Based Physics I and Calculus - Based Physics I Lab	4
<b>Credits</b>		<b>14-15</b>
Spring		Credits
ET 184	Applied AC Circuits	2
ET 210	Advanced 3-D Modeling (Solid Works)	3
ET 217 & 217 L	Manufacturing Processes and Manufacturing Processes Lab	4
ENGR 234	Engineering Mechanics II	3
PHYS 1240G & PHYS 1240L or PHYS 1320G and PHYS 1320L	Algebra-Based Physics II or Calculus -Based Physics II and Calculus - Based Physics II Lab	4
<b>Credits</b>		<b>16</b>

### Third Year

Fall		Credits
Area V: Humanities (see recommended list) <sup>1</sup>		3
A ST 311	Statistical Applications	3
ET 306 & 306 L	Fundamental and Applied Thermodynamics and Thermodynamics Lab	4
ET 308 & 308 L	Fluid Technology and Fluid Technology Lab	4
ENGL 2210G	Professional and Technical Communication Honors	3
<b>Credits</b>		<b>17</b>
Spring		Credits
ET 305	Introduction to Product Design	3
ET 310 & 310 L	Applied Strength of Materials and Applied Strength of Materials Lab	4
ET 396	Heat Transfer and Applications	3
Technical Elective (from pre-approved list) <sup>4</sup>		3
Viewing a Wider World (See recommended list) <sup>1</sup>		3
<b>Credits</b>		<b>16</b>

### Fourth Year

Fall		Credits
Area VI: Creative and Fine Arts (see recommended list) <sup>1</sup>		3
ET 426	Analysis and Design of Machine Elements	3
ENGR 401	Engineering Capstone I	3
I E 451	Engineering Economy	3
Technical Elective (from pre-approved list) <sup>4</sup>		3
<b>Credits</b>		<b>15</b>
Spring		Credits
ET 402	Instrumentation	3
ET 410	Senior Seminar	1
ENGR 402	Engineering Capstone II	3
Technical Elective (from pre-approved list) <sup>4</sup>		3
Viewing a Wider World (See recommended list) <sup>1</sup>		3
<b>Credits</b>		<b>13</b>
<b>Total Credits</b>		<b>122-124</b>

- <sup>1</sup> See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of this catalog for a full list of courses. See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of this catalog for a full list of courses.
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