

MECHANICAL ENGINEERING - MASTER OF SCIENCE IN MECHANICAL ENGINEERING

Admission Requirements: See <https://mae.nmsu.edu/academic-programs/grad/admission.html>.

Thesis Option (30 credits)

Prefix	Title	Credits
Requirements		
M E 570	Engineering Analysis I	3
Select one course from each of the following 3 topic areas		9
<i>Solid Mechanics</i>		
Select one from the following:		
M E 502	Elasticity I	
M E 504	Continuum Mechanics	
<i>Thermal Science</i>		
Select one from the following:		
M E 503	Thermodynamics	
M E 540	Intermediate Heat Transfer	
<i>Fluid Mechanics</i>		
Select one from the following:		
M E 530	Intermediate Fluid Mechanics	
M E 533	Numerical Methods for Fluid Mechanics and Heat Transfer	
<i>Dynamics and Vibrations</i>		
Select one from the following:		
M E 511	Dynamics	
M E 512	Vibrations	
<i>Engineering Analysis and Control</i>		
Select one from the following:		
M E 518	Finite Element Analysis	
M E 527	Linear Systems Theory	
Select 9 credits of other M E graduate courses^{1, 2}		9
Master's Thesis Research		9
M E 599	Master's Thesis	
M E 509	Individualized Study	
Total Credits		30

¹ All course must be 500 level or above. Up to 6 credits of A E graduate courses may be substituted with the approval of the Graduate Coordinator.

² If M E 510 Special Topics or A E 510 Special Topics Special Topics is taken, it must be a regular course with a proper course title taught in class. Any 510 course as an independent study would never be counted.

Publication Requirement

A refereed conference paper accepted or a refereed journal article in review or accepted by graduation. The M.S. thesis can be a reformatted version of this paper. Exceptions may be made on a case by case basis by the department head.

Selection of Permanent Advisor

Newly admitted graduate students will be assigned a temporary advisor for the first semester, but they must select a degree option and a permanent advisor before registering for the second semester.

When considering a decision about a degree option and an advisor, the student should arrange to meet with several members of the graduate faculty during the first six weeks of study to discuss specific educational objectives. The student can use these meetings to become familiar with faculty interests and research projects currently in progress. The faculty member must agree (in writing) to serve as the student's advisor.

All students must pass a final examination. The final examination is to be conducted by the student's advisory committee and is taken after completing all thesis work.

New Mexico State University master's accelerated program provides **the opportunity for academically qualified undergraduate students** to begin working on a master's degree **during their junior and senior years** while completing a bachelor's degree. Typically, a bachelor's degree requires four years to complete, and a master's degree requires an additional two years. The master's accelerated programs allow students the opportunity to complete a graduate program in an accelerated manner. You can also check NMSU's catalog for additional information about our programs.

Please talk to an MAE faculty advisor about your MAP plan and develop a course plan in consultation with the advisor. The faculty advisor should preferably be from the MAE area of your interest.

MAP Requirements

- The Graduate School allows qualified junior or senior students to substitute its graduate courses for required or elective courses in an undergraduate degree program and then subsequently count those same course as fulfilling graduate requirements in a related graduate program.
- Undergraduate students may apply for acceptance to the accelerated master's program after completing 60 semester hours of undergraduate coursework of which a minimum of 25 semester credit hours must be completed at NMSU.
- The grade point average must be at a minimum of 2.75.
- Students must receive a grade of B or higher in this coursework to be counted for graduate credit. If a grade of B- or lower is earned, it will not count toward the graduate degree.

Accepted MAP Courses

The following courses are accepted for use in the MAP program, any other courses may be considered after a consultation with an advisor. An exception will need to be made to the degree audit in order for the additional course(s) to be included on both the Undergraduate and Graduate degrees.

Prefix	Title	Credits
M E 452	Control System Design	3
M E 456	Experimental Modal Analysis	3
M E 457	Engineering Failure Analysis	3
M E 458	Properties and Mechanical Behavior of Materials	3
M E 460	Applied Finite Elements	3
M E 481	Alternative and Renewable Energy	3
M E 483	Introduction to Combustion	3

2 Mechanical Engineering - Master of Science in Mechanical Engineering

M E 486	Introduction to Robotics	3
M E 487	Mechatronics	3
A E 451	Aircraft Design	3
A E 464	Advanced Flight Dynamics and Controls	3
A E 469	Hypersonic Aerothermodynamics	3
M E 502	Elasticity I	3
M E 503	Thermodynamics	3
M E 504	Continuum Mechanics	3
M E 510	Special Topics ¹	1-6
M E 511	Dynamics	3
M E 512	Vibrations	3
M E 530	Intermediate Fluid Mechanics	3
M E 533	Numerical Methods for Fluid Mechanics and Heat Transfer	3
M E 540	Intermediate Heat Transfer	3
A E 510	Special Topics ¹	1-6
A E 575	Propulsion	3

¹ 510 Special Topics must be a regular course with a proper course title taught in class, usually cross-listed with 405 Special Topics. Any 510 course as an independent study would never be counted.