

MECHANICAL ENGINEERING MINOR

Banner Code: ME

Academic Advising

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Mechanical Engineering is the broadest of the engineering disciplines, concerned with anything that moves or uses energy. There are two major stems in mechanical engineering: mechanical systems and thermal fluid systems. Mechanical engineers design, build, and analyze complex devices, systems and processes that involve the conversion of energy from one form to another, the production of work, and the transport of energy and mass from one location to another.

This minor provides a foundation in mechanical engineering and is most appropriate for students with a strong mathematics and science background, such as a major in another engineering or science field.

Admissions & Policies

Admissions

To be admitted to the minor, students must have completed MATH 114 Analytic Geometry and Calculus II and PHYS 160 University Physics I (Mason Core) (<http://catalog.gmu.edu/mason-core/>)/PHYS 161 University Physics I Laboratory (Mason Core) (<http://catalog.gmu.edu/mason-core/>) with a grade of C or better.

Policies

The minor in mechanical engineering consists of a minimum of 20-21 credit hours of coursework. All students must complete 14 credit hours of core courses. They must also complete two additional elective courses. All courses must be completed with a grade of C or better.

Eight credits of coursework must be unique to the minor. For policies governing all minors, see AP.5.3.4 Minors (<http://catalog.gmu.edu/policies/academic/undergraduate-policies/#ap-5-3-4>).

For policies governing all undergraduate programs, see AP.5 Undergraduate Policies (<http://catalog.gmu.edu/policies/academic/undergraduate-policies/>).

Requirements

Minor Requirements

Total credits: 20-21

Core Courses

Code	Title	Credits
ENGR 107	Introduction to Engineering (Mason Core) (http://catalog.gmu.edu/mason-core/)	2
or ME 151	Practicum in Engineering	

ME 211	Statics	3
ME 212	Solid Mechanics	3
ME 221	Thermodynamics	3
ME 231	Dynamics	3
Total Credits		14

Elective Requirements

Code	Title	Credits
Select two additional courses from the following:		6-7
ME 313	Material Science	
ME 322	Fluid Mechanics	
ME 323	Heat Transfer	
ME 341	Design of Mechanical Elements	
ME 342	Design of Thermal Systems	
ME 352	Entrepreneurship in Engineering	
ME 414	Fatigue Analysis	
ME 415	Composite Materials	
ME 421	HVAC Design	
ME 425	Renewable Energy Engineering	
ME 431	Systems Dynamics	
ME 432	Systems Dynamics and Controls	
ME 445	Finite Element Analysis	
ME 446	Energetics	
ME 447	Computer-Aided Design	
ME 454	Project Mgmt for Engineers	
ME 471	Introduction to Astronautics	
ME 472	Spacecraft Subsystems	
ME 473	Space Systems Propulsion	
ME 475	Aeronautics I	
ME 476	Aeronautics II	
ME 499	Special Topics in Mechanical Engineering (must choose at least a 3 credit section)	
Total Credits		6-7