

ENGINEERING MECHANICS, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

The Engineering Mechanics minor helps students prepare to analyze and/or design simple structures that are efficient and safe under foreseen loading conditions.

Contemporary engineering design of mechanical components requires precise information and modern analysis techniques to determine material response to anticipated loading. Designers must have the analytical and experimental tools to accurately define deformation under load to characterize dynamic response and to prevent mechanical failure. In the event of failure the cause(s) must be ascertained to prevent future failure through redesign and/or material substitution. Thus, industry has a real need for those with a sound foundation in Engineering Mechanics, the engineering science that deals with the effects of forces and torques on rigid and deformable bodies. Engineering Mechanics consists of Statics (bodies in equilibrium), Dynamics (bodies in unsteady motion such as vibration, moving on curvilinear paths) and the Mechanics of Deformable Media. The latter topic covers the change in dimensions of bodies of various shapes under the influence of forces, torques, temperature, and dynamic motion. Further failure criteria under such loadings are introduced and utilized in examples of engineering design. Some twenty undergraduate courses covering the above topics are available at two levels, i.e. sophomore introductory and senior (400) courses.

What is Engineering Mechanics?

Engineering mechanics is the engineering science that deals with the effects of forces and torques on particles, rigid bodies, or deformable media. Mechanics is typically subdivided into statics, dynamics, and mechanics of deformable bodies. The Engineering Mechanics minor is for undergraduates who wish to supplement their engineering backgrounds with extensive study in mechanics. The high-tech industry has a significant need for individuals with a sound background in engineering mechanics. Industries such as aerospace, automotive, power, structures, and appliance regularly hire graduates who are competent in engineering mechanics.

You Might Like This Program If...

- You wish to wish to supplement your engineering background with extensive study in mechanics.
- You enjoyed your introductory courses in Statics, Dynamics, and Mechanics of Materials and would like to learn more.