

Michigan State University
Department of Mechanical Engineering

ENGINEERING MECHANICS CONCENTRATION

(12 Credits)

Leonardo DaVinci reportedly described the study of mechanics as “the paradise, the Garden of Eden of mathematics, for therein it bears its fruit.” The engineering mechanics concentration is designed to provide undergraduate students with a more thorough understanding of analytical, computational and experimental methods for investigating the response of structures and fluids to external forces, pressures, thermal effects and other environmental loads. These skills have applications in all areas of mechanical engineering as well as in many interdisciplinary fields, and they are the key to modern mathematics-based design processes that are used by all major engineering firms. This concentration is also well suited for preparing students for graduate study in mechanical engineering or engineering mechanics.

To complete a Bachelor of Science degree in mechanical engineering with an engineering mechanics concentration, students must complete the requirements for the B.S. degree, including the following 12 credits:

- ME 423 Intermediate Mechanics of Deformable Solids – 3 credits (Fall Semester)
- ME 475* Computer Aided Design of Structures – 3 credits (Spring Semester)
- ME 425 Experimental Mechanics – 3 credits (Fall Semester)
- ME 464 Intermediate Dynamics – 3 credits (Spring Semester)

CREDIT DISTRIBUTION: The 12 credits in the concentration will fulfill the Senior Elective requirement, including the “design intensive” course component. Completion of the option will be noted on the final transcript.

*Design intensive.