

MAJOR IN MECHANICAL ENGINEERING, MECHANICAL ENGINEERING CONCENTRATION

Mechanical engineers are creative problem solvers who design, develop, and manufacture the machines and instrumentation that run energy, building, environmental, and transportation systems.

In Mechanical Engineering, students take basic science and mathematics courses while beginning their engineering studies in design and computing. A broad spectrum of classes is designed to sharpen problem-solving skills. The senior year focuses on a year-long capstone design course to help students in the transition from college to an engineering career. Students also choose technical electives from the energy, materials, robotics and automation, biomedical, and aerospace engineering areas. Participation in labs provides an active learning environment and further develops design, modeling, and analytical skills.

Mechanical Engineering at CSU is dedicated to graduating ethical mechanical engineers who:

1. Make an impact on society's global, grand engineering challenges
2. Act as innovative and creative engineering designers who identify, analyze, and solve complex problems
3. Function as accomplished thinkers with hands-on practical skills
4. Serve as local, regional, and global collaborators and communicators
5. Commit to life-long learning

Students in the Major in Mechanical Engineering, Mechanical Engineering Concentration take mechanical engineering and other engineering-related electives to fulfill their degree requirements.

Learning Objectives

Upon successful completion, students will be able to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Function effectively on a team whose members together provide leadership, create a collaborative environment, establish goals, plan tasks, and meet objectives.
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.