The Master of Science (M.S.) in Mechanical Engineering degree at CSUN emphasizes design and applications in three main areas of specialization: Mechanical Systems Design, System Dynamics and Controls, and Thermal-Fluid Systems.
PROGRAM INFORMATION

ADMISSION REQUIREMENTS

1. General University requirements apply for all applicants.

2. For admission, a Bachelor of Science degree in Mechanical Engineering with a 3.0 or higher overall grade point average is required. Students with GPA between 2.5 and 3.0 may be admitted at the discretion of the graduate coordinator.

3. Approval by the College of Engineering and Computer Science and the department graduate coordinator.

4. Foreign students must submit a minimum TOEFL score of 550 (paper-based test) or 213 (computer-based test) to demonstrate their proficiency in the English language.

5. To be considered for admission, the grades received in the undergraduate program and cumulative GPA must be available on a four-point letter grade scale of A-F. This admission requirement applies to applicants whose undergraduate (or other) institution does not report course grades in a letter format corresponding to a four-point numerical scale (A = 4, B = 3, C = 2, D = 1, F = 0) equivalent to the grading system used at CSUN.

6. Students interested in the M.S. in Mechanical Engineering degree program who do not have an undergraduate degree in Mechanical Engineering should contact the graduate coordinator regarding prerequisite requirements. The “Prerequisites” courses or their equivalents are required if they have not been taken previously, but they do not count as part of the M.S. program.

ABOUT THE M.S. PROGRAM

The Department offers a Master of Science (M.S.) in Mechanical Engineering degree. This program emphasizes design and application in three main areas of specialization: Mechanical Systems Design, System Dynamics and Controls, and Thermal-Fluid Systems. Faculty research interests focus on these and other areas including bioengineering, computational fluid dynamics, energy processes, fluid mechanics, heat transfer, computer-aided design and manufacturing, and mechatronics. Practicing engineers can choose from many elective courses to meet their professional needs. The Mechanical Engineering Department has multiple design and simulation laboratories such as subsonic wind tunnel, a manufacturing facility and a composites laboratory. All laboratories employ advanced Computer-Aided Engineering tools to provide the students with real-world design experiences.

PROGRAM REQUIREMENTS

- Completion of a total of 31 units with minimum 3.0 GPA.
- Completion of 15 units of required Core Courses.
- Completion of 9 or 15 units of electives from one of the three areas of emphasis depending on the choice of culminating experience.
- Completion of 1.0 unit of culminating experience which could be either thesis defense or comprehensive exam.
- Students choosing thesis option must complete 6 units of directed graduate research.
Students will be able to select mathematical models for the development of complex dynamic systems within physical domains.

- Students will apply control theory and modern simulation techniques to analyze and modify systems' behavior.
- Students will design feedforward and feedback controllers to meet system and tracking requirements.

**Thermal-Fluid System**

- Students will be able to evaluate and analyze behavior of fluid flow and energy transfer in multidisciplinary engineering processes.
- Students will further develop their problem-solving skills to examine complex thermal-fluids problems using experimental, analytical or advanced computational techniques.
- Students will be able to utilize appropriate design and analysis methodologies to investigate and improve thermal-fluid systems.