Mechanical Engineering, MS
Effective 2020-2021

College of Engineering
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The Mechanical Engineering master's program provides advanced level study in distinct areas of specialization such as mechanics and materials, energy and thermal/fluid systems, design and manufacturing, and aerospace. The program prepares the graduate student for doctoral level studies or for advanced mechanical engineering practice in industry, consulting or government service.

Unconditional Admission
An applicant may be given unconditional admission to the MSME Program if he/she possesses a Bachelor of Science in Mechanical Engineering degree from an accredited institution with an overall GPA of 3.0 or better on a 4.0 scale. Students admitted on an unconditional basis are expected to have completed “key fundamental courses” as part of their undergraduate program.

Conditional Admission
An applicant may be granted conditional admission if he/she falls under one of the following situations:
   a. Applicant has a Bachelor of Science in Mechanical Engineering degree with a GPA of less than 3.0 but has a major GPA of at least 3.0 in the last four semesters of undergraduate study. The overall GPA must not be less than 2.8
   b. Applicant has a Bachelor of Science degree in an engineering discipline with a 3.0 GPA or better on a 4.0 scale but is deficient in key fundamental courses as listed in the previous section. These deficiencies must not exceed 12 credit hours.
   c. Applicant has a Bachelor of Science degree in a non-engineering discipline but a closely related undergraduate degree with a substantial and relevant engineering science and mathematics content and a GPA of 3.0 or higher. Background deficiencies should not exceed 12 credit hours.
   d. Students entering the MS program with conditional status will have two semesters to finish undergraduate courses.

Additional Admission Requirements
- Unconditional admission requires an engineering undergraduate degree from an ABET accredited mechanical engineering program

Program Outcomes
- Students will develop advanced critical thinking skills by solving complex and challenging problems in mechanical engineering, mathematics and the physical sciences
- Students will communicate effectively by conveying their ideas, both orally and in written form, in accordance with acceptable published standards
- Students will demonstrate their ability to perform research by generating a thesis of an original idea and publishing technical papers under the guidance of an academic advisor
- Graduates will engage in professional activities by attending conferences, presenting papers and serving various roles in professional organizations

Degree Requirements
Total credit hours: 30
- Core courses (9 credits): MEEN 613, 631, 716
Thesis option
- MATH electives (3 credits): Take 3 credit hours from MATH 650, 651, 652
- MEEN electives (9 credits): Take 9 credits of additional MEEN 600-899 courses with approval of advisor
- Technical electives (3 credits): Take additional 3 credit hours with approval of advisor and department
- Thesis (MEEN 797: 6 credits)
- Pass thesis defense
Project option
- MATH electives (3 credits): Take 3 credit hours from MATH 650, 651, 652
- MEEN electives (9 credits): Take 9 credits of additional MEEN 600-899 courses with approval of advisor
- Technical electives (6 credits): Take additional 6 credit hours with approval of advisor and department
- Project (MEEN 796: 3 credits)

Course option
- MATH electives (3 credits): Take 3 credit hours from MATH 650, 651, 652
- MEEN electives (9 credits): Take 9 credits of additional MEEN 600-899 courses with approval of advisor
- Technical electives (9 credits): Take additional 9 credit hours with approval of advisor and department
- Pass comprehensive exam