MECHANICAL ENGINEERING AMP

All students must meet the Requirements for the Accelerated Master’s Degree Programs

OVERVIEW

Qualified undergraduate students who plan to earn a master’s degree in mechanical engineering may enroll in the Accelerated Master’s Program, which enables students to begin working on a master’s degree while still an undergraduate. Students apply to the program in the second semester of their junior year. Following acceptance by the Graduate College, students may take up to nine graduate credits while still an undergraduate. Of these, up to six credits can be counted toward both the B.S. and the M.S. degrees, subject to approval of the student’s graduate advisor. Students in the Accelerated Masters Program are required to follow the requirements of the thesis option M.S. degree, and typically begin work toward their master’s thesis starting in the summer following their junior year.

SPECIFIC REQUIREMENTS

Requirements for Admission to Graduate Studies for the Degree of Master of Science for Accelerated Students

To apply for the program, students must have a cumulative grade point average of at least 3.20 at the time of application, must submit a letter of application to the graduate program coordinator naming a faculty member who has agreed to serve as their graduate advisor and must complete the Graduate College application.

The Accelerated Master’s Program is only available for electrical engineering and mechanical engineering students who are planning a thesis-based degree.

Minimum Degree Requirements for the Degree of Master of Science

The Mechanical Engineering Graduate Program offers both thesis and non-thesis options for the master’s degree. Both options require the completion of advanced courses in mechanical engineering, mathematics, and other approved courses and research (for thesis students) totaling at least thirty credits. Graduate students receiving financial support via teaching or research fellowships are required to select the thesis option. Part-time students typically select the non-thesis option but may choose the thesis option if they prefer. Students normally decide on which option they intend to pursue at the beginning of their program.

All students are required to complete:

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<th>Description</th>
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<td>A prescribed set of nine core course credits which cover areas of advanced engineering, mathematics, continuum mechanics, and numerical methods</td>
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<td>Six course credits in the area of specialization for their degree</td>
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Currently, the program offers areas of specialization in:

- Bioengineering and Biomechanics;
- Control Theory and Mechanical Systems;
- Solid Mechanics and Materials; and
- Thermal Sciences and Fluids.

Further details on the core course requirements and the areas of specialization can be obtained from the Mechanical Engineering Graduate Program website.

Option A (Thesis)

In addition to core courses, students selecting the thesis option must complete between six and nine thesis credits (ME 391) prior to the master’s thesis defense, with the expectation that the student’s research must culminate in an original piece of work publishable as a conference proceedings paper or a peer-reviewed journal article. Those opting for a six-credit thesis must complete an additional three credits of approved course work.

Option B (Non-thesis)

Students selecting the non-thesis option must complete an additional fifteen credits of course work beyond the core credits in lieu of a thesis. Of the additional course work, a minimum of nine credits must be in a chosen area of specialization.

Comprehensive Examination

The comprehensive examination for the thesis option is the oral defense of the thesis.

The comprehensive examination for the non-thesis option tests the proficiency of the students in four topics of the mechanical engineering curriculum or closely related fields. The candidate works with his/her advisor and the graduate program coordinator to form a committee of three to four graduate faculty, one of whom should hold an appointment outside of mechanical engineering (one faculty member may test the student on two distinct topics). The first part of the comprehensive examination consists of a written part spanning no more than eight hours (two hours per topic). In the second part of the examination, the committee meets with the student to ask questions regarding the written exam and any follow up topics that may be necessary to establish the proficiency of the candidate in mechanical engineering. A candidate is allowed to take no more than two comprehensive examinations. Comprehensive examinations are typically scheduled at the end of the Fall or Spring semesters.

Requirements for Advancement to Candidacy for the Degree of Master of Science

A cumulative grade point average of 3.00 or better.