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 must follow either the non-thesis option or research thesis option M.S. degree requirements. For the thesis option, research counting toward the thesis will typically begin immediately 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 be enrolled at the University of Vermont in mechanical engineering with a cumulative grade point average of at least 3.20 at the time of application, and must complete the CEMS Accelerated Masters Permission Form and the Graduate College application. For thesis students, the application should name a graduate faculty member who has agreed to serve as their thesis advisor. No Graduate Record Examination (GRE) is required for AMP applicants.

Minimum Degree Requirements for the Degree of Master of Science

The Mechanical Engineering AMP requires the completion of advanced courses in mechanical engineering, mathematics, and other approved courses and research (for thesis students) totaling at least thirty credits.

Students are required to complete:

| A prescribed set of nine core course credits which cover areas of advanced engineering, mathematics, continuum mechanics, and numerical methods |
| Six course credits in the area of specialization for their degree |

Currently, the program offers areas of specialization in:

- Biomechanics and Biomaterials
- Control and Design of Mechanical Systems;
- Materials Engineering and Nanomechanics;
- Thermodynamics, Fluids and Energy; and
- Computational Mechanics.

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

<table>
<thead>
<tr>
<th>Option A (Thesis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option B (Non-thesis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

Comprehensive Examination

The comprehensive examination for the thesis option consists of successfully presenting a proposal research seminar.

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 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 comprehensive examination consists of a written part spanning no more than four hours (one hour per topic). The committee may meet 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.