Master of Science in Mechanical Engineering (MSME)

Thesis Option

The quantitative requirement for the degree is 30 credit units. A minimum of 24 of these units must be course work, and a minimum of 6 units must be Master's Research (MEMS 599).

The overall grade-point average must be 2.70 or better.

Courses may be chosen from 400- and 500-level offerings. All must be engineering, math or science courses with the following restrictions:

- A maximum of 3 units of Independent Study (MEMS 500) are allowed.
- A maximum of 6 units of 400-level courses are allowed, and these must be from courses not required for the BSME degree (if counted for the MSAE) or not required for the BSAE degree (if counted for the MSME degree), with the exception of MEMS 4301 Modeling, Simulation and Control, which can count toward the MS.
- Each course must be approved by the candidate's thesis advisor.
- A maximum of 6 units of transfer credit with a grade of B or better are allowed for courses taken at other graduate institutions.
- A minimum of 15 units of the total 30 units must be in MEMS courses.

The student must also write a satisfactory thesis and successfully defend it in an oral examination before a faculty committee consisting of at least three members, at least two of which are from the Department of Mechanical Engineering & Materials Science.

Full-time MS students in any area are required every semester to take MEMS 501 Graduate Seminar, which is a zero-unit, pass/fail course.

Course Option

The quantitative requirement for the degree is 30 credit units (normally 10 courses) completed with a grade-point average of 2.70 or better.

Course programs may be composed from one area of specialization below (MSME) or from aerospace engineering (MSAE). They must conform to the following distribution:

Applied Mathematics	6 credits
Area of Specialization	15 credits
Electives	9 credits

Elective courses may be chosen in any area of engineering or mathematics at the 400 level or higher. Of the 30 units, a minimum of 24 must be in 500-level courses. No more than 6 units may be in 400-level courses; core requirements for the ME undergraduate degree are not allowed, with the exception of MEMS 4301, which is allowed. A maximum of 3 credits of independent study (MEMS 400 or MEMS 500) may be used as an elective. A minimum of 15 units must be in MEMS. Non-engineering courses (e.g., T courses, finance or entrepreneurship courses) cannot be counted.

Full-time MS students in any area are required every semester to take MEMS 501 Graduate Seminar, which is a zero-unit, pass/fail course.

Degree candidates will plan their course programs with the help of a departmental advisor. Use the links below to find courses in the areas of specialization.

Engineering Areas of Specialization for the MS in Mechanical Engineering

- Applied Mechanics (https://wustl.app.box.com/s/40dacfdykkxmb9z7t9x801t14ore6wat/)
- Dynamics/Mechanical Design (https://wustl.app.box.com/s/40dacfdykkxmb9z7t9x801t14ore6wat/)
- Solid Mechanics/Materials Science (https://wustl.app.box.com/s/40dacfdykkxmb9z7t9x801t14ore6wat/)
- Fluid/Thermal Sciences (https://wustl.app.box.com/s/40dacfdykkxmb9z7t9x801t14ore6wat/)
- Energy Conversion and Efficiency (https://mems.wustl.edu/graduate/programs/Pages/specialized-tracks.aspx)