Master of Science (MS) in Materials Science and Engineering

Thesis Option

The quantitative requirement for the degree is 30 credit hours. A minimum of 24 of these units must be course credit, and a minimum of 6 units must be Master's Research (MEMS 599). A minimum of 15 units of the total 30 units must be in MEMS courses.

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

Every semester, full-time MS students in Materials Science and Engineering (MSE) are required to take either the department’s Graduate Seminar (MEMS 501) or the Graduate Seminar offered by the Institute of Materials Science & Engineering (IMSE 501). These are zero-unit, pass-fail courses.

Degree candidates will plan their programs with the help of their thesis adviser. Courses are to be Engineering courses at the 500 level or above, or Chemistry, Earth and Planetary Science, or Physics courses at the 400 level or above. Course credit must include at least 12 units (four courses) from a list of approved materials-focused courses (https://mems.wustl.edu/graduate/programs/Pages/MS-in-Materials-Science-Engineering.aspx), found on the MEMS website, as well as 3 units (one course) of mathematics at the graduate level. The following restrictions apply:

- A maximum of 3 units of Independent Study (MEMS 500) are allowed.
- A maximum of 6 units of 400-level courses are allowed.
- Each course must be approved by the candidate’s thesis adviser.
- A maximum of 6 units of transfer credit is allowed for courses taken at other graduate institutions, and these must have been taken with grade B or better.
- For the combined bachelor's/master's degree (https://engineering.wustl.edu/prospective-students/graduate-admissions/Pages/bachelors-masters.aspx), up to 6 units can count for both the BS and the MS, as long as the program of studies satisfies the criteria above.

The remaining courses (electives) and may be chosen according to the general criteria above, as long as they contribute to a coherent program of study in materials science.

Course Option

The quantitative requirement for the degree is 30 credit hours (normally 10 courses). A minimum of 15 units of the total 30 must be in MEMS courses.

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

Every semester, full-time MSE students are required every semester to take either the department’s Graduate Seminar (MEMS 501) or the Graduate Seminar offered by the Institute of Materials Science & Engineering (IMSE 501). These are zero-unit, pass-fail course.

Degree candidates will plan their programs with the help of their faculty adviser. Courses are to be Engineering courses at the 500 level or above, or Chemistry, Earth and Planetary Science, or Physics courses at the 400 level or above. Course credit must include at least 18 units (six courses) from a list of approved materials-focused courses (https://mems.wustl.edu/graduate/programs/Pages/MS-in-Materials-Science-Engineering.aspx), found on the MEMS website, as well as 3 units (one course) of mathematics at the graduate level. The following restrictions apply:

- A maximum of 3 units of Independent Study (MEMS 500) are allowed.
- A maximum of 6 units of 400-level courses are allowed.
- A maximum of 6 units of transfer credit is allowed for courses taken at other graduate institutions, and these must have been taken with grade B or better.
- For the combined bachelor's/master's degree (https://engineering.wustl.edu/prospective-students/graduate-admissions/Pages/bachelors-masters.aspx), up to 6 units can count for both the BS and the MS, as long as the program of studies satisfies the criteria above.

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.