Masters of Science (MS) in Materials Science and Engineering (MSE)

All school of engineering (SOE) master’s degrees are designed to be a course-based 1-yr MS degree. This requires students complete 10 courses (30 semester hours) of courses and their degree will stipulate “non_thesis”. All credits must be chosen in accordance with the student’s academic advisor. In order to earn the stipulation “with thesis” the student must work with a mentor to perform research which will then be written into a thesis and defended before a panel of three faculty. This is often done during a second year, where the student is only paying continuation fees. The availability and willingness of a faculty member to work with a student on a thesis is not guaranteed.

- At least one of the courses must come from the core MSE course list, see below
- An additional 12 SHUs must come from the approved MSE course list, http://materialsscience.tufts.edu/education/course.htm
- Up to 16 SHUs can be taken in Master’s Thesis credits, not to be combined with Master’s Project
- Up to 8 SHUs can be taken in Master’s Project credits, not to be combined with Master’s Thesis
- Up to 8 SHUs can be taken in Internship credits.
- Up to 4 SHUs can be taken in Professional Development credits.

MSE core courses:

- MSE 101 – Materials Characterization: A jointly offered course on materials characterization techniques, taught by experts on the tools. Potential substitutes: BME-256 & 257 or EE-214
- MSE 102 – Thermodynamics of Materials Processes: The thermodynamics of phase changes, solid phase changes, surfaces, crack/void formation, diffusion, polymer alloys and solutions. Potential substitutes: ChBe203, CHM131, or ME 116

Note: These core courses are being rolled out over the 2022-23 academic years as trial courses and will likely not be listed under their MSE designation until the 23/24 academic year. Any MSE student joining after Spring 2022 will need to take the MSE core courses instead of the previously allowed substitutes, unless they are specifically given special dispensation. Another three core course options are planned and will be rolled out in the academic years that follow AY 24 and after.