

# MATERIALS SCIENCE AND ENGINEERING (MENG)

College of Engineering

Program Website (<https://www.engineering.cornell.edu/mse/meng/>)

CIP: 14.1801 | HEGIS: 0915.00 | NYSED: 13332

## Program Description

The Master of Engineering (M.Eng.) Materials Science and Engineering degree program is designed for students who intend to pursue industry careers, although former graduates have successfully pursued other career tracks, such as government, non-profit, and academia.

Both recent graduates and established professionals are encouraged to apply.

This program is for students from a wide range of backgrounds, including those who have an undergraduate degree in:

- Materials Science/Engineering
  - these students further develop their expertise in materials, often developing an in-depth knowledge of one area in particular
- Other Physical Science or Engineering Fields
  - these students supplement their existing education with a detailed knowledge of materials, often finding a new area of specialization

This 30-credit program is typically completed in two full-time semesters. The curriculum includes graduate-level course work, a capstone project, and professional development training. Program flexibility is an essential feature, wherein students take an active role in designing their own personal curriculum and matching themselves to an industry or faculty sponsored project.

## Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 30

## Program Requirements

### Core Courses

Code	Title	Hours
MSE 5830	Thermodynamics of Condensed Systems	4
MSE 5840	Kinetics, Diffusion, and Phase Transformation	3
MSE 5801	Materials Structure and Electronic Properties	3
MSE 5802	Materials Structure and Mechanical Properties	3
<b>Total Hours</b>		<b>13</b>

### Capstone Project

Code	Title	Hours
Select one of the following:		
MSE 5070	Interdisciplinary Design Concepts	4
MSE 5010 & MSE 5011	MEng Project - Ongoing and MEng Project - Terminal	2-22

## Professional Development and Colloquium

Code	Title	Hours
MSE 5005	MSE MEng Professional Development	1
MSE 8010	Materials Science and Engineering Colloquium	0.5
<b>Total Hours</b>		<b>1.5</b>

## Management Elective

Code	Title	Hours
Select one of the following: <sup>1</sup>		
CEE 5900	Project Management	4
NCC 5540	Managing and Leading in Organizations	3
NBA 6650	The Strategic Management of Technology and Innovation	3

<sup>1</sup> These are suggestions, but alternatives may be considered.

## University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

### Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

### Non-academic Requirements

**Conduct Matters.** Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

**Financial Obligations.** Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

## Graduation Requirements for Master of Engineering Degree (M.Eng.) Programs Requirements

The following are general requirements for graduation that apply to all Master of Engineering degrees offered on the Ithaca campus. The individual program pages provide additional information about discipline-specific requirements.

### Credits and Residency Units

- Satisfactory completion of 30 technical credits, of which:
  - At least 21 credits must be earned at Cornell. (Some M.Eng. programs allow up to 9 transfer credits of letter-graded coursework completed outside of Cornell to be applied to the M.Eng. degree.)
  - At least 12 credit hours must be in coursework from the home M.Eng. program (as determined by the program).
  - A maximum of two credit hours graded on an S/U basis may be included.
- The credit hours of any course in which a student receives a grade below C- will not count toward the Master of Engineering degree.
- Students must maintain a course load of at least 12 credit-bearing hours<sup>1</sup> each semester.
- Students may not enroll in more than 20 credit-bearing hours per semester.
- Students must complete two full-time residency units<sup>1</sup> (semesters) as registered M.Eng. students. Winter and summer sessions do not count as residency units.

<sup>1</sup> Course load and residency unit exceptions apply for Distance Learning program students, employee degree program students, and Industrial Partnership Program students. The residency unit requirement is one full-time registered semester for Early Admit M.Eng. students and certain Cornell MPS/MS/PhD student transfers.

### Courses

- Only program-approved courses at the 5000 level and above may count toward the M.Eng. degree.
- Courses covering subject matter previously taken at Cornell may not be repeated for credit.
- Satisfactory completion of an engineering design project bearing 3 or more credit hours and including a formal written report.

### Other Requirements

- A grade-point average of 2.50 or above is required across all Cornell courses which count for credit towards the M.Eng. degree.
- Students must complete all degree requirements within four calendar years of their first enrollment in the M.Eng. program (six years for distance learning students), inclusive of any leaves of absence.
- Students must complete the M.Eng. Exit Survey prior to graduation.