MATERIALS ENGINEERING, MENG

for the degree of Master of Engineering in Materials Engineering

This program is not accepting applications for academic year(s) 2022-2027.

Admission

Students with bachelor's or master's degrees in the natural sciences or engineering will be considered for admission if they have a grade point average of at least 3.00 (A = 4.00) for the last two years of undergraduate study. The general test of the Graduate Record Examination (GRE) (http://www.ets.org/) is required. Admission is possible for the spring semester, but most admissions are for the fall semester. Full details of admission requirements are on the department's graduate admissions Web site (http://www.matse.illinois.edu/admissions/graduate.html).

All applicants whose native language is not English must submit a minimum TOEFL (http://www.toefl.org/) score of 104 (iBT), 257 (CBT), or 613 (PBT); or minimum International English Language Testing System (IELTS) (http://www.ielts.org/) academic exam scores of 7.5 overall and 6.0 in all subsections. Applicants may be exempt from the TOEFL if certain criteria (http://grad.illinois.edu/admissions/instructions/04c/) are met. Full admission status (http://grad.illinois.edu/admissions/instructions/04c/) is granted for those taking the TOEFL or IELTS since the scores required for admission to MatSE are above the minimum scores demonstrating an acceptable level of English language proficiency.

For the M.Eng. degree program students must have had a B.S. degree in MatSE or a related field (e.g., B.S. degrees in Metallurgy, Polymers or Ceramics, or with concentrations in Materials Chemistry, Condensed Matter Physics, etc.). Students in the program are not expected to continue in and do not have automatic admission to the Ph.D. program in MatSE. The M.Eng. degree is a professional degree.

Financial Aid

Financial aid is available in the form of research assistantships, teaching assistantships, and partial fellowships for students in the Ph.D. programs. Except for special circumstances, MatSE does not provide financial aid to students in the M.S. and M.Eng. programs. All applicants, regardless of U.S. citizenship, whose native language is not English and who wish to be considered for teaching assistantships must demonstrate spoken English language proficiency (http://grad.illinois.edu/admissions/taengprof.htm) by achieving a minimum score of 50 on the Test of Spoken English (TSE), 24 on the speaking subsection of the TOEFL iBT, or 8 on the speaking subsection of the IELTS. For students who are unable to take the TSE, iBT, or IELTS, a minimum score of 4CP is required on the EPI test (http://cte.illinois.edu/testing/oral_eng/epi_overview.html), offered on campus. All new teaching assistants are required to participate in the Graduate Academy for College Teaching (http://cte.illinois.edu/programs/ta_train.html) conducted prior to the start of the semester.

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The Department of Materials Science & Engineering (MatSE) offers graduate programs leading to degrees of Master of Science and Doctor of Philosophy in Materials Science & Engineering. The department is consistently ranked among the top programs in the nation (undergraduate and graduate) by U.S. News and World Report. It offers opportunities to specialize in Nanoscale Science and Technology, Materials for Energy and the Environment, Materials for Medicine, and Mechanical Properties and Materials for Extreme Conditions with strong research programs in all of the areas.

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For additional details and requirements, please refer to the department's Graduate Degree Requirements Handbook (https://matse.illinois.edu/academics/graduate-programs/) and the Graduate College Handbook (http://grad.illinois.edu/gradhandbook/).

Code	Title	Hours
MSE 492	Lab Safety Fundamentals (credit does not apply toward the degree)	0
MSE 585	Materials Engrg Practicum (The equivalent of two semesters of industrial internships or co-ops (30 weeks total; one of the semesters can be during the B.S. program or prior to enrollment).)	2
Two MSE area specialty courses in the student's chosen area of specialization.		6
MSE area specialty courses in one area outside the student's chosen area of specialization (subject to Other Requirements and Conditions below)		3-6
Technical elective course - Chosen from list appropriate for the student's area of specialization		3
Elective courses – At least 10 hours of these elective courses shall be College of Engineering courses in one or more of the areas of business, technology management, and entrepreneurship as listed on an approved list available from the department. There is the possibility of obtaining one of the Technology Entrepreneur Center Certificates.		13-20
Total Hours		**36**

Other Requirements and Conditions

Requirement	Description
Other Requirements and Conditions may overlap	
Minimum hours of MSE course work	11
Minimum of 500-level credit hours overall applied toward the degree.	12

MSE 595 (0 or 1 hour) must be taken every semester in the first two years of residence. A maximum of 2 hours may be applied toward the degree.	
A maximum of 2 hours of MSE 529 or MSE 559 in combination may be applied toward the degree. Students will be expected to present an oral report on their internship in either course, as appropriate, the semester following completion of the internship.	Ceramics, Electronic Materials, and Metallurgy area majors take MSE 529 every semester in residence; Polymer and Biomaterials area majors take MSE 559 every semester in residence
One or two MSE area specialty courses in one area outside the student's chosen area of specialization are required (two if one was not taken as part of the B.S. program)	
Minimum GPA:	3.0

Students who are admitted to the M. Eng. program are responsible for finding a suitable internship. Department or college staff may be able to help students in their search for a suitable placement suitable internship but the department does not guarantee a placement. The MSE 585 *internship requires approval by the departmental Director of Graduate Studies to insure that it matches the student's individual career objectives and meets the learning goals of the program. Students taking an internship as part of their undergraduate B.S program should also check with the Director of Graduate Studies; his/her approval is required if the student is already accepted in the combined B.S./M.Eng. Program. Students returning to the university after having had materials engineering employment experience, if it is deemed appropriate, may use that as their internship and base their report on that experience*

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1. The ability of students to function as independent scientists and engineers.
2. A deep understanding of the underlying principles of the appropriate theories in their subject area.
3. A deep understanding of the underlying principles of the synthesis and preparation of their subject materials.
4. A deep understanding of the underlying principles of characterization of their subject materials.
5. A deep understanding of the underlying principles of processing of their subject materials.
6. A deep understanding of interrelationships of structure, processing and properties of their subject materials.
7. A broad knowledge of the preparation, characterization and processing of all types of materials.

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Materials Science & Engineering
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Grainger College of Engineering

Grainger College of Engineering website (https://grainger.illinois.edu/)

Admissions
Materials Science & Engineering Admissions (https://matse.illinois.edu/admissions/graduate-admissions/)
Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)