MATERIALS SCIENCE & ENGINEERING, PHD

for the degree of Doctor of Philosophy in Materials Science & Engineering

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overview of admissions & requirements: https://matse.illinois.edu/admissions/graduate-admissions
overview of grad college admissions & requirements: https://grad.illinois.edu/admissions/apply
department website: https://matse.illinois.edu
program website: https://matse.illinois.edu/academics/graduate-programs
department faculty: https://matse.illinois.edu/people/faculty/department-faculty
college website: https://grainger.illinois.edu/
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Opportunity exists for specializing in i) biomechanics via the Biomechanics (http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/) optional graduate concentration, ii) cancer nanotechnology via the Cancer Nanotechnology (http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/) optional graduate concentration, and iii) computational science and engineering via the Computational Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/) optional graduate concentration.

Admission Requirements

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 under special circumstances, but most admissions are for the fall semester. Full details of admission requirements are on the department’s graduate admissions Web site (https://matse.illinois.edu/admissions/graduate-admissions/).

All applicants whose native language is not English are required to submit the results of the TOEFL (http://www.toefl.org/) or International English Language Testing System (IELTS) (http://www.ielts.org/) as evidence of meeting the English proficiency requirements for full admission status (http://grad.illinois.edu/admissions/instructions/04c/). Under certain circumstances applicants may be exempt (https://grad.illinois.edu/admissions/instructions/04c/) from the TOEFL/IELTS requirement.

Financial Aid

Financial aid is available in the form of research assistantships, teaching assistantships, and partial fellowships for students in the PhD programs. All applicants to the MatSE PhD program are automatically considered for financial support in the form of a research assistantship. Starting in Fall 2020, Grainger Engineering PhD students in their first five years of enrollment who meet the minimum eligibility requirements (https://grainger.illinois.edu/academics/graduate/phd-funding-guarantee/) are guaranteed a funded appointment for fall and spring that includes a full tuition waiver, a partial fee waiver, and a stipend.

All applicants, regardless of US 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 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 TOEFL IBT or IELTS, a minimum score of 4CP 5 or 6 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 (https://citl.illinois.edu/citl-101/teaching-learning/grad-academy-for-college-teaching/) conducted prior to the start of the semester.

Department Research

The backgrounds of faculty members vary widely within the broad areas of Nanoscale Science and Technology, Materials for Energy and the Environment, Materials for Medicine, and Mechanical Properties and Materials for Extreme Conditions. In addition, research collaborations with other faculty outside the department are frequent. For a detailed list of faculty research interests and publications, view the MatSE department’s faculty biographies (https://matse.illinois.edu/directory/faculty/).

The MatSE department has an outstanding array of facilities available for materials research. These facilities, in addition to laboratories in the department’s buildings, include, among others, the Materials Research Laboratory, Center for Microanalysis of Materials, Beckman Institute for...
Advanced Science and Technology, and Micro and Nanotechnology Laboratory. The National Center for Supercomputing Applications and the MRL Center for Computation are readily available. Information about these facilities may be found at the MatSE department’s facilities information Web site (http://www.matse.illinois.edu/research/facilities.html).

Other Graduate Programs in the Department of Materials Science & Engineering

degrees:

Materials Science & Engineering, MS (http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/)

optional concentrations for the PhD:

Biomechanics (http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/) | Cancer Nanotechnology (http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/) | Computational Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/) | Data Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/data-science-engineering/)

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.

Opportunity also exists for specializing in energy and sustainability engineering via the

Energy and Sustainability Engineering (EaSE) Graduate Certificate Option (http://ease.illinois.edu/)

Information listed in this catalog is current as of 04/2022