



UNIVERSITY OF DELAWARE
ENGINEERING

Department of Materials Science & Engineering

MASTERS IN MATERIALS SCIENCE & ENGINEERING (MMSE)

The field of Materials Science and Engineering encompasses the broad disciplines of physics, chemistry, biology, and engineering by providing a platform for multidisciplinary activities across these fields. It integrates the role of research and education to develop and prepare students for today's challenges while giving them the breadth, perspective, versatility, and vision to adapt to the changing environment of tomorrow. The department's major research efforts involve both "soft materials" consisting of polymers and biomaterials and "hard materials" consisting of electronic materials, inorganic and organic thin films, surfaces and interfaces, nanoscale materials, and composites. There are ongoing fundamental studies of self-assembly in block copolymers, crystallization, morphology, and the synthesis and characterization of advanced polymeric materials. The area of biomaterials brings together research in materials chemistry and biology with an emphasis on tissue engineering, responsive gels, biosensors, and drug delivery.

RESEARCH AREAS OF FOCUS

POLYMERS AND COMPOSITES

BIOLOGICAL AND BIOMEDICAL MATERIALS

PHOTOVOLTAICS

PHOTONIC MATERIAL

NANOMATERIALS

ELECTRONIC MATERIALS

INORGANIC-ORGANIC HYBRID MATERIALS

SELF-ASSEMBLY OF MATERIALS

THIN FILM MATERIALS

MATERIALS CHARACTERIZATION



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and Affirmative Action, see www.udel.edu/home/legal-notices*

Learn more at www.mseg.udel.edu

REQUIREMENTS

PREREQUISITE REQUIREMENTS – MMSE DEGREE

A student entering the Materials Science and Engineering Graduate Program normally possesses a bachelor's (or higher) degree in a physical science or engineering discipline. A successful candidate for admission would minimally have taken courses to the following levels: mathematics, through partial differential equations, physics, including mechanics, heat, electricity, magnetism and introductory modern physics, chemistry, through physical chemistry; and introduction to materials science. In addition, courses in thermodynamics, field concepts, phase transformations, biology, biochemistry, and structure and mechanical properties of materials are considered very useful.

ADMISSIONS REQUIREMENTS – MMSE DEGREE

Admission requirements are normally (1) completion of a bachelor's degree with a GPA of at least 3.2, (2) three excellent letters of recommendation from faculty or scholars, and (3) TOEFL score of 79 or higher. GRE is not required. Admission decisions are made by a committee of the Materials Science and Engineering faculty.

MMSE DEGREE CURRICULUM

OPTION 1 – MASTERS THESIS DEGREE The Masters (MMSE) Thesis degree requires 30 total credits (24 credit hours of course work and 6 credits of MSEG869 – master's thesis work on a research topic approved by your advisor). Of the 24 credits (8 courses) of course work, 9 credits must be three required core courses, another 6 credits are chosen from an approved list of 5 non-core courses, and an additional 9 credits of technical electives must be chosen from the same approved list of 5 non-core courses or other courses approved by the student's research advisor.

OPTION 2 – MASTERS NON-THESIS DEGREE

The Masters (MMSE) Non-Thesis degree requires 30 total credits of course work. Of the 30 credits (10 courses) of course work, 9 credits must be three required core courses, another 6 credits are chosen from an approved list of 5 non-core courses, and an additional 15 credits of technical electives must be chosen from the same

approved list of 5 non-core courses or other courses approved by the student's academic advisor. The non-thesis degree is offered primarily for off-campus or part-time students, but is available to full-time students with permission from the MSEG graduate committee.

APPLY ONLINE

For more information about graduate admission and to apply online, visit the Graduate College at

<https://grad.udel.edu/apply/>.

PROGRAM INFORMATION

www.mseg.udel.edu/students/graduate/ms-requirements/

ADMISSION DEADLINES

December 15: Fall application deadline

CONTACT

Department of Materials Science & Engineering

201 Du Pont Hall

Newark, DE 19716

P: (302) 831-7183

E: matsci@udel.edu

Learn more at www.mseg.udel.edu