MATERIALS SCIENCE & ENGINEERING, BS

for the degree of Bachelor of Science in Materials Science & Engineering

Materials Science & Engineering Website (https://matse.illinois.edu)
Materials Science & Engineering Faculty (https://matse.illinois.edu/people/faculty/)
The Grainger College of Engineering Admissions (https://grainger.illinois.edu/admissions/)
The Grainger College of Engineering (https://grainger.illinois.edu/)
Current Program Educational Objectives (https://matse.illinois.edu/academics/undergraduate-programs/student-outcomes/)

Materials science and engineering is the basis for all engineering. Improvements in the quality of life require knowledge of the processing and properties of current materials and the design, development and application of new materials. The Materials Science and Engineering (MatSE) curriculum provides an understanding of the underlying principles of synthesis and processing of materials and of the interrelationships between structure, properties, and processing. Students learn how to create advanced materials and systems required, e.g., for flexible electronic displays and photonics that will change communications technologies, for site specific drug delivery, for self-healing materials, for enabling the transition to a hydrogen-based economy, and for more efficient photovoltaics and nuclear systems for energy production. The curriculum uses concepts from both basic physics and chemistry and provides a detailed knowledge of what makes the materials we use every day behave as they do.

Students in the first two years take courses in general areas of science and engineering as well as courses introducing the concepts in MatSE. In the third year, students study the common, central issues related to MatSE. In the senior year, students focus on an area of MatSE of their greatest interest, providing them with the detailed knowledge to be immediately useful to corporations, become entrepreneurs, or to provide the underpinning knowledge for graduate study. Note: students interested in biomaterials take a specific set of courses to provide them with a background in biology and chemistry while maintaining a strong engineering focus.

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