

# MATERIALS SCIENCE AND ENGINEERING, B.S.

Advances in technology are closely linked to the materials that people can design, manipulate, and produce. How we live is connected to our abilities to process materials and manufacture products; to develop and design nontraditional as well as traditional materials for an increasingly broad range of industries; and to research and develop high-performance materials for practical applications in coming decades. The materials that change the way we live may be the next generation of superalloys for applications in extreme conditions such as high-temperature or highly corrosive environments; new materials for application in energy generation, storage, and transmission; organic and inorganic materials for use and integration in applications ranging from electronics to medicine; or new materials systems yet to be developed for the ever-increasing needs of our society. Materials experts find employment in a broad range of industries and may practice experimental, computational, or theoretical materials science and engineering, or all of these in combination. The undergraduate curriculum leads to the Bachelor of Science Degree in Materials Science and Engineering. The curriculum is designed to prepare students with the foundation needed to thrive in broad and rapidly changing industries that are based on materials. It also provides substantial flexibility, through electives and with the assistance of a materials science and engineering faculty advisor, for tailoring to students' specific interests within the materials field. Science, engineering, teamwork, broad thinking, and communication skills all are integral parts of the curriculum. Graduates are well prepared for careers in industry or for graduate studies.

## MATERIALS SCIENCE AND ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

**Objective 1:** Skills and Tools. Graduates will be applying the tools and skills acquired during their undergraduate experience either in post-graduate educational programs or as employees in materials-related industries.

**Objective 2:** Early Career Growth. Graduates will have experienced professional growth in their chosen post-baccalaureate pursuits, for example, through acquisition of advanced degrees or advancement in employment rank.

**Objective 3:** Professional Citizenship. Graduates will have demonstrated awareness of contemporary issues in technology and society and ethical responsibility.

**Objective 4:** Life-Long Learning: Graduates will have demonstrated a continuing commitment to learning.