BACHELOR OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING

The materials science and engineering undergraduate program offers a BS degree in Materials Science and Engineering with concentrations in Polymer and Fiber materials, Structural and Functional materials and Biomaterials. This versatile degree combines instruction in the fundamentals of ceramic, metallurgy, and polymer and fiber science and engineering with specialized knowledge and skills, including nano-, bio-, composite, electronic, and optical and magnetic materials. Freshmen and sophomores study basic chemistry, physics, mathematics, and engineering science and are introduced to the fundamental aspects of materials. Two English courses taken in the freshman year provide the foundation for further instruction in communications that is integrated throughout the curriculum. Juniors and seniors take courses in the engineering and science of materials including the details of materials processing, structure, and properties. The curriculum culminates in a two-course senior design sequence in which students work in teams to design a material, component, or process using previously learned skills and knowledge.

Five concentration related courses provide flexibility that allow students in their junior-senior years to focus in a particular area of materials. Five hours of free electives allows students to further specialize or pursue other interests. Courses in the humanities/fine arts and social sciences ensure that graduates appreciate the role of engineering in today's global society.

Mission Statement

The mission of the Bachelor of Science in Materials Science and Engineering program is to produce graduates well-rounded in the fundamentals of materials science and engineering who are prepared to meet the related needs of industry and government, and prepared for advanced academic study in materials related disciplines. This will be accomplished by providing students with up-to-date knowledge and skills through coursework, modern laboratories, opportunities to conduct cutting edge research with distinguished faculty mentors, and opportunities to participate in leadership and service activities.

Program Educational Objectives

The general educational objective of the Materials Science and Engineering undergraduate program is to provide its graduates with the fundamental knowledge to function effectively in materials-related positions in industry, government, and academics. The following specific Program Educational Objectives were established to ensure the attainment of this general objective consistent with the visions and missions of Georgia Tech and the College of Engineering, and ABET Criteria for Evaluating Engineering Programs:

1. To produce graduates with the fundamental knowledge and skills to function effectively in materials science and engineering related positions in industry and government, or to successfully pursue advanced study.
2. To produce graduates who advance in their chosen fields.
3. To produce graduates who function effectively in the global arena.

Grade Requirements

In order to encourage students to explore subjects of personal or professional interest without jeopardizing their GPA, the Institute has a limited pass/fail option. The policy of the School of Materials Science and Engineering regarding the use of pass/fail hours for credit is as follows: no course specifically required by name and number by the materials science and engineering curriculum may be taken on a pass/fail basis and used toward graduation, unless the course is offered only on that basis.

In cases of deficiencies obtained for the intended graduation term, refer to Section VII (on Deficiencies) of the Rules and Regulations published in the on-line General Catalog.

Transfer Students

Students transferring into Materials Science and Engineering from another university or major should meet with the Associate Chair for Undergraduate Programs to discuss possible course substitutions and plan their remaining coursework.

- Bachelor of Science in Materials Science and Engineering - Biomaterials (http://www.catalog.gatech.edu/programs/materials-science-engineering-biomaterials-bs)
- Bachelor of Science in Materials Science and Engineering - Polymer and Fiber Materials (http://www.catalog.gatech.edu/programs/materials-science-engineering-polymer-fiber-materials)