Materials Science and Engineering

Program Educational Objectives

Within the scope of the MSE mission, the objectives of the Materials Engineering Program are to produce graduates who:

A. practice materials engineering in a broad range of industries including materials production, semiconductors, medical/environmental, consumer products, and transportation products.
B. engage in advanced study in materials and related or complementary fields.

Program Outcomes

Graduates in Materials Science and engineering will have demonstrated the following at the time of graduation:

a. an ability to apply knowledge of mathematics, science, and engineering
b. an ability to design and conduct experiments, as well as to analyze and interpret data
c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d. an ability to function on multi-disciplinary teams
e. an ability to identify, formulate, and solve engineering problems
f. an understanding of professional and ethical responsibility
g. an ability to communicate effectively
h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i. a recognition of the need for and an ability to engage in life-long learning
j. a knowledge of contemporary issues
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

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