

MSE Program Objectives and Outcomes

Mission

The mission of the School of Materials Engineering at Purdue University is to serve its constituents through: discovery, to expand the realm of materials knowledge; learning, through the dissemination and preservation of knowledge about materials; and engagement, through the exchange of knowledge about materials.

Constituents

The School of Materials Engineering at Purdue University will provide an education that optimally serves the School's constituencies: the students, the MSE faculty, alumni and employers.

Objectives

The degree program in Materials Engineering will provide the educational experiences to produce graduates with the knowledge and skills to excel in materials science and engineering related positions or to pursue graduate study. Within a few years after graduating, our students will:

1. Be successful in top graduate schools and/or in materials science & engineering or other professional positions.
2. Contribute their Materials Engineering expertise effectively as members of engineering teams.
3. Demonstrate professional skills including continued professional development, participation in professional societies and organizations, and engagement in leadership positions.

Outcomes

Meeting the following program outcomes will facilitate achieving the objectives described above. The numbers represent the Purdue MSE program outcomes, the letters refer to the corresponding ABET program outcomes. Graduates of the Undergraduate program in the School of Materials Engineering at Purdue University will have:

MSE	ABET	Program Outcomes
1	a	an ability to apply knowledge of mathematics, science, and engineering to problems in materials engineering.
2	b	an ability to design and conduct experiments, as well as to develop engineering judgment through the analysis and interpretation of data
3	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
4	d	an ability to function on multi-disciplinary teams
5	e	an ability to identify, formulate, and solve engineering problems, particularly in the context of materials selection and design
6	f	an understanding of professional and ethical responsibility
7	g	an ability to exhibit effective oral and written communication skills
8	h	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
9	i	a recognition of the need for, and an ability to engage in life-long learning
10	j	a knowledge of contemporary issues, particularly as they relate to materials engineering
11	k	an ability to use the techniques, skills, and experimental, computational and data analysis tools necessary for materials engineering practice.