MATERIALS ENGINEERING

In today's world there is a constant demand for new materials of superior quality or with particular combinations of properties. It is the task of the materials engineer to use chemical and physical processes to provide new materials, more useful and valuable products, and improvements in the properties of existing materials on a cost-effective basis.

Materials engineering, like other branches of engineering, is based on mathematics, physics, and chemistry.

Necessarily, the engineer must work with every type of material, whether it be metal, glass, plastic, or naturally occurring rock or wood; and electrical conductors, semiconductors, or insulators, transparent or otherwise. The variety of available materials is as wide as the applications; to use them to good effect, the engineer must understand the nature of the substances that might be used for a particular purpose and the chemical and physical processes that are involved in their production.

Being in a central position in the development and design of new products, the materials engineer has excellent and varied career opportunities, extending from fundamental research through primary production processes and subsequent manufacturing to quality control and failure analysis.

Mission Statement

The Materials Department is committed to provide comprehensive undergraduate and graduate education in Materials Engineering, outstanding research, and service to our students, College, the University of Wisconsin-Milwaukee, and the community, as well as to active participation in professional societies.

Programs

- Materials Engineering, BSE (https://catalog.uwm.edu/engineering-applied-science/materials-engineering/materials-engineering-bse/)
- Materials Engineering, Minor (https://catalog.uwm.edu/engineering-applied-science/materials-engineering/materials-engineering-minor/)

Faculty

Name	Rank	Degree	School	Graduate Faculty	Emeritus Faculty
Nidal Abu-Zahra	Associate Professor, Chair	PhD	Cleveland State University	✔	
George S. Baker	Professor	PhD			✔
Benjamin Church	Associate Professor	PhD	Georgia Institute of Technology	✔	
Hugo F. Lopez	Professor	PhD	Ohio State University	✔	
Xiaoli Ma	Assistant Professor	PhD	Arizona State University	✔	
Joachim P. Neumann	Professor	PhD			✔
Junjie Niu	Assistant Professor	PhD	Zhejiang University	✔	
Pradeep K. Rohatji	Wisconsin Distinguished Professor	ScD	Massachusetts Institute of Technology	✔	
Dev Venugopalan	Associate Professor, Vice Provost	PhD	McMaster University	✔	