

**WHAT CAN I DO WITH A MAJOR IN:  
MATERIALS SCIENCE AND ENGINEERING**

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**What Activities Could Materials Science and Engineering Majors Do?**

Materials engineers are involved in the extraction, development, processing, and testing of the materials used to create a diversity of products, from computer chips and television screens to golf clubs and snow skis. They work with metals, ceramics, plastics, semiconductors, and combinations of materials called composites to create new materials that meet certain mechanical, electrical, and chemical requirements. They also are involved in selecting materials for new applications. There are numerous new developments within materials engineering that make it possible to manipulate and use materials in various ways. They evaluate economic factors, and use their knowledge of materials to develop materials that can be used, for example, to reduce weight but not strength. For example, materials engineers have developed the ability to create and then study materials at an atomic level using advanced processes, electrons, neutrons, or x-rays and to replicate the characteristics of materials and their components with computers. Development of new materials is a primary objective of materials scientists, and they are largely responsible for the composite materials on stealth aircraft and other cutting-edge systems.

Many materials scientists are involved in mining, and the extraction of substances from natural ores. Mining engineers inspect and ensure the safety of miners in underground and open-pit mines. They also locate and appraise new ore deposits and supervise the construction of mine shafts. Mining Engineers often develop methods for extracting ores from the mine and monitor operating costs.

**What Industries Could Materials Science and Engineering Majors Explore?**

Chemical Products	Consulting	Electronics	Industrial Gas	Healthcare
Packaging Engineering	Petroleum	Polymer resins	Semiconductors	Paper making
Consumer Products	Mining	Government	Pharmaceuticals	Marketing

**What Employers Hire Materials Science and Engineering Majors?**

3M	Accenture	Allied Signal	BP	Bristol-Meyers Squibb
Cessna Aircraft	Cummins	Dial Corp.	Boston Scientific	Cypress Semiconductor
Eastman Kodak	General Mills	FM Global	ExxonMobil	Donatelle Plastics
Ingersoll-Rand	Innovex	Dow Chemical	Ecolab	Medtronic
Komag	Hormel	Hatteras Yachts	Fisher Controls	Lockheed Martin
MnDOT	Motorola	Schlumberger	Polaris	Texas Instruments

**What Are Some Full-Time Job Titles For Materials Science and Engineering Majors?**

Applications/Sales Engineer	Systems Engineer	Plant Production Engineer
Marketing Engineer	Process Control Engineer	Manufacturing Engineer
Mining Engineer	Project Engineer	Consulting Engineer

**What Are Some Useful Websites For Materials Science and Engineering Majors?**

TMS Online	<a href="http://www.tms.org">www.tms.org</a>
ASM International	<a href="http://www.asm-intl.org">www.asm-intl.org</a>
National Institute for Material Science	<a href="http://www.nims.go.jp/eng">www.nims.go.jp/eng</a>
Material Science and Engineering Laboratory	<a href="http://www.msel.nist.gov">www.msel.nist.gov</a>
Material Science & Engineering Career Resource Center	<a href="http://www.crc4mse.org">www.crc4mse.org</a>

Information on this page was compiled from the Occupational Outlook Handbook, the Encyclopedia of Careers and Vocational Guidance, University of Minnesota departmental websites, and student-reported data.