

# MATERIALS SCIENCE (MS)

## Programs

- Materials Science Minor (<http://catalog.unh.edu/archives/2017-2018/undergraduate/engineering-physical-sciences/programs-study/materials-science/materials-science-minor>)

## Courses

### Materials Science (MS)

#### MS 401 - Science of Stuff

##### Credits: 4

Materials Science is a relatively new and fast growing field that studies all types of materials, including metals, ceramics, polymers, semiconductors, and composites. Material Science explores how stuff is put together, how to change stuff and make it better, the properties and applications of stuff, and even how to make totally brand new stuff. This course explores materials from various topic areas, including sports, forensics, medicine and health, fashion, architecture and construction, music and art, food and transportation from the perspective of materials science. Students explore additional materials independently as well as practice the process of science through simple experimentation and data analysis. Special fee.

**Attributes:** Physical Science(Discovery); Technology GP 3T

#### MS 402 - Nanoscience in Energy

##### Credits: 4

An introduction to nanomaterials, or matter with important structural features that are nanometers in size. A nanometer is very small—a billionth of a meter; a sugar molecule is only about 1 nm wide. Scientists and engineers are now building materials by manipulating atoms or groups of atoms. The course explores how materials with nanoscale features demonstrate novel and beneficial properties for energy applications. The growing energy demands of the planet require timely, if not urgent, innovative multidisciplinary solutions. These solutions require an informed citizenry knowledgeable about the various perspectives related to powering our planet. This course is a means to inform the non-scientist student about the physical science aspects of energy, nanomaterial solutions for our energy needs, along with some historical, economic, and environmental perspectives. The energy discussion provides a backdrop for our exploration of the structure and properties of nanomaterials. Special fee.

**Attributes:** Physical Science(Discovery); Physical Science GP 3P

#### MS 762 - Electronic Materials Science

##### Credits: 4

Provides students with a foundation in the materials science of modern electronic devices. Examples are taken primarily from the fields of semiconductor electronics and nanotechnology. Prereq: PHYS 408, MATH 527.