

# MATERIALS SCIENCE MINOR

<https://ceps.unh.edu/materials-science/program/minor/materials-science>

## Description

Materials science is an interdisciplinary field that involves the research, development, and design of new materials. In the past century, materials scientists have enabled major technological advances in areas such as electronic materials for semiconductors, new metal alloys for aircraft and automotive applications, and new polymers for a host of medical and consumer applications. In order to prepare students for continuing growth and innovation in materials science, the materials science program offers this minor, which is open to all students at UNH.

The minor offers a broad introduction to materials science, which reflects the interdisciplinary nature of the field. Students interested in the minor should contact the director of the materials science program (Prof. James Krzanowski, [james.krzanowski@unh.edu](mailto:james.krzanowski@unh.edu)) as early as possible and preferably before the end of their sophomore year.

## Requirements

Students must complete at least 18 credits and a minimum of five courses, as described below, with C- or better and a minimum 2.0 grade-point average. No more than 8 credits used to satisfy the student's major requirements may be used toward the minor.

Code	Title	Credits
<b>Required</b>		
ME 561	Introduction to Materials Science <sup>1</sup>	4
<b>Group A: Thermodynamics, Kinetics and Structure of Materials</b>		
Select one of the following:		4-5
CHEM 683 & CHEM 685	Physical Chemistry I and Physical Chemistry Laboratory <sup>2</sup>	
PHYS 508	Thermodynamics and Statistical Mechanics <sup>2,3</sup>	
ME 795	Special Topics	
<b>Group B: Materials Applications and Properties</b>		
Select one of the following:		4-5
CHEM 545 & CHEM 546	Organic Chemistry and Organic Chemistry Laboratory	
CHEM 547 & CHEM 549	Organic Chemistry I and Organic Chemistry Laboratory	
CHEM 651 & CHEM 653	Organic Chemistry I and Organic Chemistry Laboratory	
PHYS 718	Condensed Matter Physics	
ME 786	Introduction to Finite Element Analysis	
ME 795	Special Topics	
Select two to three additional courses from either Group A or Group B <sup>4</sup>		4-6

<sup>1</sup> It is strongly recommended that students take this course during their sophomore year.

<sup>2</sup> Students cannot receive credit towards the minor for both PHYS 508 Thermodynamics and Statistical Mechanics and CHEM 683 Physical Chemistry I/CHEM 685 Physical Chemistry Laboratory.

<sup>3</sup> Students cannot receive credit towards the minor for PHYS 508 Thermodynamics and Statistical Mechanics if they have taken ME 503 Thermodynamics.

<sup>4</sup> As needed to reach the required 18 credits