# Materials Science Minor

Materials Science is a unique blend of disciplines spanning engineering, science, and forestry at OSU.

The Materials Science minor is aimed at students with a wide range of materials-related interests including composites, ceramics, polymers, metallurgy, electronic materials and devices, solid-state chemistry, and solid-state physics.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MATS 321</td>
<td>INTRODUCTION TO MATERIALS SCIENCE</td>
<td>4</td>
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<tr>
<td>or ENGR 321</td>
<td>INTRODUCTION TO MATERIALS SCIENCE</td>
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<td>Select one of the following:</td>
<td>3-4</td>
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<tr>
<td>CCE 321</td>
<td>CIVIL AND CONSTRUCTION ENGINEERING MATERIALS</td>
<td></td>
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<tr>
<td>MATS 322</td>
<td>MECHANICAL PROPERTIES OF MATERIALS</td>
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<tr>
<td>ENGR 322</td>
<td>MECHANICAL PROPERTIES OF MATERIALS</td>
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Select 19-20 credits of the following five categories:

### Structure

- CH 411 INORGANIC CHEMISTRY
- CH 442 PHYSICAL CHEMISTRY
- CHE 445 POLYMER ENGINEERING AND SCIENCE
- ECE 415 MATERIAL SCIENCE OF NANOTECHNOLOGY
- ECE 416 ELECTRONIC MATERIALS AND DEVICES
- MATS 455 EXPERIMENTAL TECHNIQUES IN MATERIAL SCIENCE
- MATS 478 THIN FILM MATERIALS CHARACTERIZATION AND PROPERTIES
- WSE 111 RENEWABLE MATERIALS FOR A GREEN PLANET
- WSE 210 *RENEWABLE MATERIALS TECHNOLOGY AND UTILIZATION
- WSE 321 CHEMISTRY OF RENEWABLE MATERIALS
- WSE 322 PHYSICAL AND MECHANICAL PROPERTIES OF RENEWABLE MATERIALS
- WSE 324 RENEWABLE MATERIALS LABORATORY

### Properties

- CCE 422 GREEN BUILDING MATERIALS
- CH 412 INORGANIC CHEMISTRY
- CHE 445 POLYMER ENGINEERING AND SCIENCE
- ECE 411 ENGINEERING MAGNETICS
- ECE 416 ELECTRONIC MATERIALS AND DEVICES
- MATS 455 EXPERIMENTAL TECHNIQUES IN MATERIAL SCIENCE
- MATS 478 THIN FILM MATERIALS CHARACTERIZATION AND PROPERTIES
- MATS 499 SPECIAL TOPICS (Physical Metallurgy)
- ME 484 FRACTURE OF MATERIALS
- ME 599 SPECIAL TOPICS
- or NSE 599 SPECIAL TOPICS
- WSE 321 CHEMISTRY OF RENEWABLE MATERIALS
- WSE 322 PHYSICAL AND MECHANICAL PROPERTIES OF RENEWABLE MATERIALS
- WSE 324 RENEWABLE MATERIALS LABORATORY

### Processing

- CHE 444 THIN FILM MATERIALS PROCESSING
- ECE 418 SEMICONDUCTOR PROCESSING
- MATS 445 WELDING METALLURGY
- MATS 499 SPECIAL TOPICS (Additive Manufacturing)
- MFGE 337 MATERIALS AND MANUFACTURING PROCESSES
- MFGE 438 COMPOSITES MANUFACTURING

### Design

- MATS 455 EXPERIMENTAL TECHNIQUES IN MATERIAL SCIENCE
- ME 480 MATERIALS SELECTION

### Ethics and Environment

- ECE 415 MATERIAL SCIENCE OF NANOTECHNOLOGY
- MATS 221 THE SCIENCE, ENGINEERING AND SOCIAL IMPACT OF NANOTECHNOLOGY
- or ENGR 221 THE SCIENCE, ENGINEERING AND SOCIAL IMPACT OF NANOTECHNOLOGY
- WSE 111 RENEWABLE MATERIALS FOR A GREEN PLANET
- WSE 210 *RENEWABLE MATERIALS TECHNOLOGY AND UTILIZATION
- WSE 453 ^FOREST PRODUCTS BUSINESS

**Total Hours: 26-28**

1. At least 3 credits from each category, 12 credits must be upper division (300 plus).

* Baccalaureate Core Course (BCC)

^ Writing Intensive Course (WIC)

**Minor Code: 764**