**Sustainable Mineral Resources Minor**

**Customize your track!**

<table>
<thead>
<tr>
<th>Mining &amp; Recycling</th>
<th>Leadership &amp; Communication</th>
<th>Business &amp; Economics</th>
<th>Data Analytics &amp; Automation</th>
<th>Environmental</th>
<th>Health &amp; Safety</th>
<th>Society &amp; Policy</th>
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<tbody>
<tr>
<td>GEOS 251 Physical Geology (4 units)</td>
<td>BNAD 302 Human Side of Organizations</td>
<td>ACCT 250 Survey of Accounting or BNAD 304</td>
<td>ESOC 214 Introduction to Data Science</td>
<td>ENVS 305 Pollution Science</td>
<td>EHS 375 Introduction to Environmental &amp; Occupational Health</td>
<td>*AST 220 Contemporary American Indian Issues (Diversity Emphasis; Tier 2 Individuals and Societies)</td>
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<tr>
<td>GEOS 446 Economic Mineral Deposits</td>
<td>COMM 117 Culture and Communications</td>
<td>GEOG 305 Economic Geography</td>
<td>*GEOG 222 Working with Numeric, Spatial, and Visual Data Fundamental Geographic Techniques</td>
<td>EHS 426 Topics in Environmental Justice or *ENVS 310 Ecosystem Health and Justice (Diversity Emphasis; Tier 2 Individuals and Societies; Building Connections)</td>
<td>EHS/CE/CPH/MNE/NSC/N_SC/OSH/Pقول/PHIL 484 Fundamentals of Industrial and Environmental Health</td>
<td>*PHIL/PA/PPEL 323 Environmental Ethics (Tier 2 Individuals and Societies)</td>
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<tr>
<td>MNE 205 Introduction to Mining Engineering</td>
<td>COMM/PR 201 Introduction to Public Relations</td>
<td>GEOG/EVS 362 Environment and Development</td>
<td>*MNE 400 Mine Examination and Valuation</td>
<td>ENVS 340 Environmental Chemistry</td>
<td>EHS/CPH/ENVS/SWES 418 Introduction to Human Risk Assessment</td>
<td>*RNR/480 Natural Resources Policy and Law</td>
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<tr>
<td>MNE/GEN 210 Mineralogy and Petrology for Engineers</td>
<td>COMM 312 Applied Organizational Communications</td>
<td>MNE 205 Introduction to Mining Engineering</td>
<td>MNE 430 Mine Examination and Valuation</td>
<td>ENVS 482 Reclamation and Redevelopment of Impacted Lands</td>
<td>MNE 297A Underground Mine Safety (1 unit)</td>
<td>*RNR/480 Natural Resources Policy and Law</td>
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<tr>
<td>MNE/GEN 210 Mineral Processing</td>
<td>COMM 404 Communications and Leadership</td>
<td>MNGMT 202 Ethical Issues in Business or PHIL 322 Business Ethics</td>
<td>MGMT 202 Ethical Issues in Business or PHIL 322 Business Ethics</td>
<td>*HWRS 201 Water science and the Environment (Tier 2 Natural Sciences)</td>
<td>MNE 297B Operation and Maintenance of Heavy Mining Equipment (1 unit)</td>
<td>*RNR/480 Natural Resources Policy and Law</td>
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<tr>
<td>MNE 427 Geomechanics (3-4 units)</td>
<td>ENVS 415 Translating Environmental Science</td>
<td>SIE/ENGR 265 Engineering Management I</td>
<td>MNE 423 Historic and Contemporary Role of US Regulatory Agencies (OSHA, MSHA, EPA) or PHP 421 Introduction to Public Health Law and Ethics</td>
<td>PA 484 Environmental Management</td>
<td>MNE 297C Fundamentals of Mine Rescue (1 unit)</td>
<td>*RNR/480 Natural Resources Policy and Law</td>
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<tr>
<td>MIN XXX: Recycling and Reclamation</td>
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- Minimum of 9 units from one or two tracks
- At least 6 units must be upper division
- Substitutions allowed for elective courses (must be approved by School advisor, program coordinator, or program manager)
- Encouraged, but not required, to take courses from outside student’s major and other minors
- Elective tracks are not officially notated on student transcripts/diplomas

All courses are 3 units unless a different number of units is shown in parenthesis.

All courses with * receive Gen Ed credit with the attribute shown in parenthesis.

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**Core Courses**

Minimum of 6 units of core coursework

One core course must be completed before starting electives (exceptions may be allowed with School approval)

- *MNE/ANTH 201 Nonrenewable Resources and World Civilizations (Diversity Emphasis; Building Connections; Tier 2 Natural Sciences)
- MNE/ENGR 422 Engineering Sustainable Development – Sr status required
- MIN 236 Materials, Societies, & Choices – Available Spring 2024
- MIN/MNE/GEN/SWES 226: A Balanced Future: Sustainability and Minerals – Available Fall 2023

**Capstone Experience**

Minimum 3 upper division units (one unit completed in final semester)

Two pathways

1. Complete MIN 4XX: Capstone Course
2. Complete a combination of an internship, seminars, and/or research project.
   - MIN 396/496: Special Topics in Mining and Mineral Resources Seminar (1 unit each; can be repeated for 3 units total)
   - MIN 392/492: Directed Research (1 unit)
   - MIN 393/493: Internship (1-2 units)
     - Requires alignment with interdisciplinary goal of School
     - Must be outside major
     - Approval from School advisor, program coordinator, or program manager

**Sustainable Design & Engineering**

- HWRS 350 Principles of Hydrology
- SIE 422 Engineering Decision Making Under Uncertainty
- MIN 393/493: Internship (1-2 units)
- Must be outside major
- Approval from School advisor, program coordinator, or program manager

Study the interconnected environmental, social, technical, and economic issues surrounding the sustainable and responsible production and use of non-renewable mineral resources. Learn to work with people and value beliefs across disciplines, cultures, and national borders from diverse faculty. Implement critical thinking, effective communication, and data-driven decision making to bridge the gap between humans’ ever-increasing demand for minerals and societies’ changing priorities toward the environment and communities.

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**Additional Notes**

- Minimum of 6 units of core coursework
- One core course must be completed before starting electives (exceptions may be allowed with School approval)
- *MNE/ANTH 201 Nonrenewable Resources and World Civilizations (Diversity Emphasis; Building Connections; Tier 2 Natural Sciences)
- MNE/ENGR 422 Engineering Sustainable Development – Sr status required
- MIN 236 Materials, Societies, & Choices – Available Spring 2024
- MIN/MNE/GEN/SWES 226: A Balanced Future: Sustainability and Minerals – Available Fall 2023