BS in Mining Engineering 2021-2022
(Minimum of 127 Credits)

Mining Engineering Advanced Technical Electives
Nine credits of Mining Engineering Electives are required, see list in the table below. Prerequisites not normally required must be satisfied by free electives or other courses not specifically listed. With approval of Mining Engineering ABET Coordinator, Mining Engineering electives may be substituted with Independent Mining Engineering Research and/or Cooperative Lab.

Enterprise Concentration (12 Credits)
With permission of Mining Engineering ABET Coordinator, enterprise may substitute 6 credits of interdisciplinary project for GE 4900 and GE 4910; 3 credits of required communication, teaming or business must be double counted as Distribution (HASS) credits; and 3 credits of enterprise instructional modules must be substituted for free electives.

Enterprise Minor: Follow concentration, and take 6 additional credits beyond required degree as per minor requirements.

Second Degree Policy: Candidates for a second degree must meet all the coursework requirements for the major in the second degree with a minimum of 25% of the credit hours required for the degree,

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Mining Engineering Advanced Technical Electives

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Offered</th>
<th>Prequisite(s)</th>
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<tbody>
<tr>
<td>GE 4504 Air Quality Engineering and Science</td>
<td>FA</td>
<td>ENVE 3501 or ENVE 3503</td>
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<tr>
<td>GE 4610 Formation Evaluation. &amp; Petroleum Engineering</td>
<td>FA</td>
<td></td>
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<tr>
<td>GE 3850 Geohydrology</td>
<td>FA, SP</td>
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<tr>
<td>GE 3200 Geochemistry</td>
<td>SP</td>
<td>CH 1150 and CH 115</td>
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<tr>
<td>GE 4800 Groundwater Engineering</td>
<td>SP</td>
<td>GE 3850</td>
</tr>
<tr>
<td>GE 4860 Computer Methods in Geomechanics</td>
<td>SP</td>
<td>GE 2000, ENG 2120, (ENG 3200 or ENG 3507)</td>
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<tr>
<td>GE 4680 Operations Research for Mining Engineers</td>
<td>On Demand</td>
<td>GE 2020 or GE 2320</td>
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<tr>
<td>CM 3830 Mineral Processing and Extraction Lab</td>
<td>SP</td>
<td></td>
</tr>
<tr>
<td>CM 4020 Undergraduate Research in Mineral Processing Engineering</td>
<td>FA, SP</td>
<td></td>
</tr>
<tr>
<td>CM 4505 Particle Technology</td>
<td>SP</td>
<td></td>
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<tr>
<td>CE 3620 Water Resources Engineering</td>
<td>FA, SP</td>
<td></td>
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<tr>
<td>CE 4511 Solid and Hazardous Waste Engineering</td>
<td>SP</td>
<td>ENVE 3501 or CEE 3501 or ENVE 3503 or CEE 3503</td>
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<tr>
<td>CE 4820 Foundation Engineering</td>
<td>FA</td>
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<tr>
<td>CE 4830 Geosynthetics Engineering</td>
<td>SP</td>
<td>CE 3201, CE 3810</td>
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<tr>
<td>CE 4850 Rock Engineering for Civil Engineering</td>
<td>SP alt year</td>
<td>CE 3810</td>
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</tbody>
</table>

NOTE: Advisors may also use special Topics Courses focusing predominantly on applications of engineering to geological engineering systems/projects with prior approval. Additionally, with prior approval from advisor, student may choose other technical electives. Many appropriate senior-level engineering courses are offered in Civil & Environmental Engineering on topics related to those listed above.

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General Education Requirements

I. Core Courses (6 Credits)
   ___ UN 1015  
   ___ UN 1025*  
   * Or one semester of a 3000 level or higher modern language.

II. Sophomore Core Courses (6 Credits)

   Creative and Critical Thinking
   Social Responsibility and Ethical Reasoning

III. HASS Course Requirements (12 Credits)

   (http://www.mtu.edu/registrar/pdfs/core-and-hass-list-17-18-v2.pdf)

   - 6 credits 3000- or 4000-level
   - 3 credits required from each of these 3 lists:
     Communication and Composition, Humanities and Fine Arts (HU/FA),
     and Social and Behavioral Sciences (EC/PSY/SS)
   - No more than 3 credits on the Restricted HASS List

   A. 6 credits 3000- or 4000-level:
      1.__________________    2.___________________

   B. 6 credits at any level:
      1.__________________    2.___________________

IV. Co-curricular activities (3 units)

   The co-curricular requirement consists of three semester units of physical education activities. These units are required for graduation, but are not included in the overall degree-credit requirement.

   Note: Most physical education activities will last for 7 ½ weeks or ½ semester. A student would need six of these ½-semester units to fulfill the 3-semester unit co-curricular requirement.

   PE__________________    PE__________________    PE__________________

   PE     PE     PE

BS Mining Engineering Curriculum Overview (127 Total Credits)

- General Education Requirements (Core and HASS)
- Geoscience Major Requirements
- Chemistry Major Requirements
- Mathematics Major Requirements
- Physics Major Requirements
- General Engineering Major Requirements
- Mining Engineering Major Requirements
- Engineering Technical Electives and Capstone Experience