### TECHNICAL/CORE ELECTIVE COURSE OPTIONS

**Students in the pre-2021 program can use these courses as TECH electives**

**Students in the emphasis program can use these courses as their CORE electives**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Course #</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Semester Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computational Intelligence</td>
<td>MG EN 5530</td>
<td>2</td>
<td>MG EN 1050</td>
<td>spring even years</td>
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<tr>
<td>Computer Programming for Engineers</td>
<td>COMP 5005</td>
<td>3</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Aggregate Mining</td>
<td>MG EN 3120</td>
<td>2</td>
<td>no prerequisites</td>
<td>fall even years</td>
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<tr>
<td>Mining Safety/Health MGNT</td>
<td>MG EN 5450</td>
<td>2</td>
<td>MG EN 5350</td>
<td>fall odd years</td>
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<tr>
<td>DISCRETE SIMULATION</td>
<td>MG EN 5520</td>
<td>2</td>
<td>prerequisites: Basic Statistics (knowledge of different distributions) and preferred: programming ability/MG EN 1050</td>
<td>spring odd years</td>
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<tr>
<td>SUSTAINABLE DEVELOPMENT</td>
<td>MG EN 5080</td>
<td>2</td>
<td>MG EN 3010</td>
<td>spring</td>
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<tr>
<td>Corrosion Fundamentals</td>
<td>MET E 5600</td>
<td>3</td>
<td>CHEM 1220</td>
<td>fall</td>
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<tr>
<td>Data Management for Eng. &amp; Heavy Industry</td>
<td>MG EN 5370</td>
<td>2</td>
<td>CHEM 1220</td>
<td>fall odd years</td>
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<tr>
<td>Energy and Society</td>
<td>CH EN 5158</td>
<td>3</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Energy Choices for the 21st Century</td>
<td>GEO 3368</td>
<td>3</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Engineering Hydrology</td>
<td>CVEEN 5410</td>
<td>3</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Environmental and Naural Resource Economics</td>
<td>ECON 5250</td>
<td>3</td>
<td>MATH 1210</td>
<td>fall</td>
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<tr>
<td>Environmental Eng.</td>
<td>CVEEN 3610/3615</td>
<td>4</td>
<td>prerequisites CVEEN 2140 and CHEM 1210/1215</td>
<td>fall/spring</td>
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<tr>
<td>Environmental Partitioning for Eng, Sci</td>
<td>GEO 5370</td>
<td>3</td>
<td>CHEM12110</td>
<td>fall</td>
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<tr>
<td>Ergonomics and Human Factors</td>
<td>H EDU 3540</td>
<td>3</td>
<td>H EDU 3520 or consent</td>
<td>spring</td>
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<tr>
<td>Financial Management</td>
<td>FINAN 3040</td>
<td>3</td>
<td>prerequisite ACCTG 2600</td>
<td>Spring</td>
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<tr>
<td>Foundations in Leadership</td>
<td>LDRSP 2020</td>
<td>3</td>
<td>none</td>
<td>fall/spring</td>
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<tr>
<td>Geophysics</td>
<td>GEO 3010</td>
<td>3</td>
<td>Math 1220/Phys 2220</td>
<td>spring</td>
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<tr>
<td>Geospatial Field Methods: GPS and Drones</td>
<td>GEOG 5170</td>
<td>3</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Global Environmental Issues</td>
<td>BIOL 3460</td>
<td>3</td>
<td>none</td>
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<tr>
<td>Groundwater</td>
<td>GEO 5350</td>
<td>3</td>
<td>Math 1220</td>
<td>fall</td>
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<tr>
<td>Hydrology Construction</td>
<td>CVEEN 5740</td>
<td>Instructor approval</td>
<td>Instructor approval</td>
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<tr>
<td>Hydrology and Water Resources</td>
<td>GEO 5650</td>
<td>3</td>
<td>none</td>
<td>spring</td>
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<tr>
<td>Hydropotia: Water Rights and the Environment</td>
<td>PHIL 5540</td>
<td>3</td>
<td>none</td>
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<tr>
<td>Intro Occupational Safety and Health</td>
<td>H EDU 3520</td>
<td>3</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Intro to Atmospheric Science</td>
<td>ATMOS 5000</td>
<td>3</td>
<td>none</td>
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<tr>
<td>Intro to Geological Engineering</td>
<td>GEO 3075</td>
<td>2</td>
<td>GEO1110/1115</td>
<td>spring</td>
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<tr>
<td>Machine Learning</td>
<td>DS 4350</td>
<td>3</td>
<td>CS3500/DS3190</td>
<td>spring</td>
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<tr>
<td>Managing Occupational Safety and Health Programs</td>
<td>H EDU 3560</td>
<td>3</td>
<td>H EDU 3520 or consent</td>
<td>spring</td>
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<tr>
<td>Mineral Processing I</td>
<td>MET E 5670</td>
<td>3</td>
<td>MET E 3500; MATH 2250</td>
<td>spring</td>
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<tr>
<td>Mineral Processing II</td>
<td>MET E 5680</td>
<td>3</td>
<td>MET E 5670</td>
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<tr>
<td>Mineralogy</td>
<td>GEO 3020</td>
<td>3</td>
<td>none</td>
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<td>Operations Research</td>
<td>MG EN 5110</td>
<td>2</td>
<td>none</td>
<td>fall</td>
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<tr>
<td>Ore Genesis/Mineral Exploration</td>
<td>GEO 5450</td>
<td>3</td>
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<tr>
<td>Other - advisor approved course</td>
<td>MET E 5690</td>
<td>2</td>
<td>MET E 3070</td>
<td>spring</td>
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<tr>
<td>Principles of Management</td>
<td>MGT 3000</td>
<td>3</td>
<td>none</td>
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<tr>
<td>Process Engineering Statistics</td>
<td>MET E 5690</td>
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<td>MET E 3070</td>
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<td>Risk Management</td>
<td>MG EN 5360</td>
<td>2</td>
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<tr>
<td>Seismology</td>
<td>GEO 5210</td>
<td>3</td>
<td>GEO 3010/MATH 2210</td>
<td>fall</td>
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<tr>
<td>Survey of Accounting</td>
<td>ACCTG 2600</td>
<td>3</td>
<td>none</td>
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<tr>
<td>The Business of Entrepreneurship</td>
<td>ENGIN 5790</td>
<td>3</td>
<td>none</td>
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<td>The Climate System</td>
<td>ATMOS 5400</td>
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<td>The Earth from Space</td>
<td>GEOG 3310</td>
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<td>fall</td>
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<td>UAV Applications</td>
<td>MG EN 5510</td>
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<tr>
<td>Water in Utah</td>
<td>GEOG 3290</td>
<td>3</td>
<td>none</td>
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<tr>
<td>Water Policy and Politics</td>
<td>POLS 5510</td>
<td>3</td>
<td>none</td>
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</table>