GEOLOGY, MS

Natural Sciences, Mathematics, and Engineering (nsme) (https://catalog.csub.edu/general-information/csub-information/school-natural-sciences-mathematics-engineering/)

Department of Geological Sciences (https://catalog.csub.edu/general-information/csub-information/school-natural-sciences-mathematics-engineering/department-geological-sciences/)

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Office: Science Building II, 340

Phone: (661) 654-3027

Email: geology@csub.edu

www.csub.edu/geology (http://www.csub.edu/geology/)

Program Maps for Natural Sciences, Mathematics, and Engineering (https://programmap.csub.edu/academics/interest-clusters/4e942a6e-b8e4-4b60-a1ae-334235acc581/)

Program Requirements

**Thesis Track (30 units)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>GEOL 5100</td>
<td>Research Methods and Strategies</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 5200</td>
<td>Advanced Professional Development for MS Students</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 6090</td>
<td>MS Thesis Proposal Defense</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 6100</td>
<td>MS Thesis Research</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 6200</td>
<td>MS Thesis Defense</td>
<td>1</td>
</tr>
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</table>

A minimum of 20 units selected from 4000-level, 5000-level, and 6000-level courses (with at least 8 units from 5000-level or 6000-level courses). Relevant graduate-level courses in other fields may be substituted with prior Program Director and Thesis Committee approval.

| GEOL 4060 | Fundamentals of Petroleum Exploration and Production | 4     |
| GEOL 4010 | Hydrogeology                                      | 8     |

and 8 additional units in approved petroleum geology focused courses are required for the optional concentration in Petroleum Geology

and 8 additional units in approved hydrogeology focused courses are required for the optional concentration in Hydrogeology

**Non-Thesis Track (30 units)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 5100</td>
<td>Research Methods and Strategies</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 5200</td>
<td>Advanced Professional Development for MS Students</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 6300</td>
<td>MS Non-Thesis Culminating Experience</td>
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</table>

A minimum of 25 units selected from 4000-level, 5000-level, and 6000-level courses (with at least 13 units from 5000-level or 6000-level courses). Relevant graduate-level courses in other fields may be substituted with prior Program Director approval.

| GEOL 4060 | Fundamentals of Petroleum Exploration and Production | 8     |
| GEOL 4010 | Hydrogeology                                      | 8     |

1 when pertinent to hydrogeology as determined by the Program Director

**Requirements for the Certificate in Hydrogeology**

The certificate requires at least 16 semester units of credit and shall be composed of the following required and elective courses:

<table>
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<tr>
<th>Code</th>
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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 4010</td>
<td>Hydrogeology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 4020</td>
<td>Environmental Geochemistry</td>
<td>4</td>
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<tr>
<td>GEOL 5770</td>
<td>Special Topics in Geology 1</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 5771</td>
<td>Special Topics in Geology 2</td>
<td>1</td>
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<tr>
<td>GEOL 5020</td>
<td>Applied Hydrogeochemistry</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 5030</td>
<td>Contaminant Hydrogeology</td>
<td>4</td>
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<tr>
<td>GEOL 5810</td>
<td>Advanced Research Participation</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 6050</td>
<td>Groundwater Modeling</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 5770</td>
<td>Advanced Topics 1</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 5771</td>
<td>Advanced Topics 2</td>
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<tr>
<td>GEOL 6770</td>
<td>Advanced Topics in Geology 1</td>
<td>1</td>
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</tbody>
</table>

Total Units: 16

1 when pertinent to hydrogeology as determined by the Program Director