

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

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

Program Requirements Thesis Track (30 units)

| Code | Title | Units |
|-----------|---|-------|
| GEOL 5100 | Research Methods and Strategies | 2 |
| GEOL 5200 | Advanced Professional Development for MS Students | 2 |
| GEOL 6090 | MS Thesis Proposal Defense | 1 |
| GEOL 6100 | MS Thesis Research | 4 |
| GEOL 6200 | MS Thesis Defense | 1 |

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

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

GEOL 4010 Hydrogeology

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

Total Units 30

Non-Thesis Track (30 units)

| Code | Title | Units |
|-----------|---|-------|
| GEOL 5100 | Research Methods and Strategies | 2 |
| GEOL 5200 | Advanced Professional Development for MS Students | 2 |
| GEOL 6300 | MS Non-Thesis Culminating Experience | 1 |

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

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

GEOL 4010 Hydrogeology

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

Total Units 30

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:

| Code | Title | Units |
|---------------------------------------|--|-----------|
| GEOL 4010 | Hydrogeology | 4 |
| Select 12 credits from the following: | | 12 |
| GEOL 4020 | Environmental Geochemistry | |
| GEOL 4770 | Special Topics in Geology ¹ | |
| GEOL 4771 | Special Topics in Geology 2 ¹ | |
| GEOL 5020 | Applied Hydrogeochemistry | |
| GEOL 5030 | Contaminant Hydrogeology | |
| GEOL 5810 | Advanced Research Participation ¹ | |
| GEOL 6050 | Groundwater Modeling | |
| GEOL 5770 | Advanced Topics ¹ | |
| GEOL 5771 | Advanced Topics 2 | |
| GEOL 6770 | Advanced Topics in Geology ¹ | |
| Total Units | | 16 |

¹ when pertinent to hydrogeology as determined by the Program Director