# GEOSCIENCE, MPSM

## Requirements for Students Matriculating in or before Academic Year 2022-2023.

Learn more about Graduate College Academic Regulation 7.0 ([link](http://catalog.okstate.edu/graduate-college/#70)).

**Total Hours:** 36

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Courses</strong></td>
<td></td>
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</tr>
<tr>
<td>Select 9 hours from the following:</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>GEOL 5213</td>
<td>Seismic Interpretation</td>
<td></td>
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<tr>
<td>GEOL 5383</td>
<td>Sequence Stratigraphy</td>
<td></td>
</tr>
<tr>
<td>GEOL 5223</td>
<td>Advanced Methods in Structural Geology</td>
<td></td>
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<tr>
<td>GEOL 5333</td>
<td>Applied Geostatistics</td>
<td></td>
</tr>
<tr>
<td>GEOL 5463</td>
<td>Physical Hydrogeology</td>
<td></td>
</tr>
<tr>
<td>GEOL 5103</td>
<td>Introduction to Geophysical Exploration</td>
<td></td>
</tr>
<tr>
<td>GEOL 5113</td>
<td>Seismic Interpretation</td>
<td></td>
</tr>
<tr>
<td>MBA 5300</td>
<td>Current Business Topics (Ethics)</td>
<td></td>
</tr>
<tr>
<td>MBA 5400</td>
<td>Business Practicum (Project Management)</td>
<td></td>
</tr>
<tr>
<td>MBA 5500</td>
<td>Interdisciplinary Inquiry in Business Administration (Descriptive Analytics)</td>
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</tr>
</tbody>
</table>

| **Hours Subtotal** | 9 |

| **Option Requirements** | 12 |

Select 12 hours from appropriate option:

- **Geophysics**
  - GEOL 5103 | Introduction to Geophysical Exploration  |
  - GEOL 5113 | Seismic Interpretation  |
  - GEOL 5543 | Introduction to Exploration Seismology  |
  - GEOL 5990 | Advanced Studies in Geology  |
  - GEOL 6103 | Gravity and Magnetic Methods  |
  - GEOL 6303 | Electrical and Electromagnetic Methods  |

- **Petroleum Geology**
  - GEOL 5023 | Petroleum Geology  |
  - GEOL 5253 | Petrology and Diagenesis of Clastic Rocks  |
  - GEOL 5133 | Structural Styles in Oil and Gas Exploration  |
  - GEOL 5283 | Subsurface Geologic Methods  |
  - GEOL 5353 | Advanced Well Log Analysis  |
  - GEOL 5363 | Carbonate Depositional Systems  |
  - GEOL 5393 | Stratigraphy of the Midcontinent  |
  - GEOL 5603 | Basin Evolution  |
  - GEOL 6503 | Rock Fractures  |
  - GEOL 6133 | Unconventional Petroleum Reservoirs  |
  - GEOL 6283 | Geology of Shales  |
  - GEOL 6373 | Advanced Carbonate Petrology and Geochemistry  |
  - GEOL 6363 | Carbonate Reservoir Characterization  |
  - GEOL 6386 | Sequence Stratigraphy of Shales  |

- **Hydrogeology**
  - GEOL 5453 | Groundwater Modeling  |
  - GEOL 5463 | Physical Hydrogeology  |
  - GEOL 5483 | Petroleum Water Management  |
  - GEOL 6553 | Contaminant Hydrogeology  |

- **Energy Management (courses available online and in Tulsa)**
  - FIN 5003 | Introduction to Energy Business  |
  - FIN 5363 | Energy Finance  |
  - PETE 5363 | Petroleum Economics and Investments  |
  - MSIS 5633 | Predictive Analytics Technologies  |

- **Reservoir Management Cluster**
  - CIVE 5713 | Soil Mechanics  |
  - CIVE 5813 | Environmental Laboratory Analysis  |
  - CIVE 4123 | The Legal & Regulatory Environment of Civil Engineering  |
  - SOIL 4893 | Environmental Soil Chemistry  |

- **Clusters**
  - Select any four courses - courses within a cluster can lead to a graduate certification.  
    - **Big Data (online and certification available through CS)**
      - STAT 5093 | Statistical Computing  |
      - CS 5783 | Machine Learning  |
      - CS 5433 | Big Data Management  |
      - CS 5683 | Big Data Analytics  |
    - **Business Administration (online and certification through Spears)**
      - MGMT 5113 | Individual and Organizational Behavior  |
      - ACCT 5183 | MBA Financial Reporting  |
      - FIN 5013 | Business Finance  |
    - **Marketing Analytics (online and certification through Spears)**
      - MKTG 5733 | Introduction to Marketing Analytics  |
      - MKTG 5743 | Advanced Marketing Analytics  |
      - MSIS 5633 | Predictive Analytics Technologies  |
      - MSIS 5303 | Prescriptive Analytics  |
    - **Advanced Computing**
      - CS 5033 | Parallel Algorithms and Programming  |
      - CS 5123 | Cloud Computing and Distributed Systems  |
      - CS 5513 | Numerical Computation  |
      - STAT 5053 | Time Series Analysis  |
      - STAT 5063 | Statistical Machine Learning with R  |
      - CS 5793 | Artificial Intell II  |
      - ECEN 5733 | Neural Networks  |
    - **Energy Management (courses available online and in Tulsa)**
      - FIN 5003 | Introduction to Energy Business  |
      - FIN 5363 | Energy Finance  |
      - PETE 5363 | Petroleum Economics and Investments  |
      - MSIS 5633 | Predictive Analytics Technologies  |
    - **Environmental Engineering and Management**
      - CIVE 5713 | Soil Mechanics  |
      - CIVE 5813 | Environmental Laboratory Analysis  |
      - CIVE 4123 | The Legal & Regulatory Environment of Civil Engineering  |
      - SOIL 4893 | Environmental Soil Chemistry  |
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PETE 4303</td>
<td>Petroleum Rocks and Fluids</td>
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<tr>
<td>PETE 4313</td>
<td>Drilling and Well Completions</td>
<td></td>
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<tr>
<td>PETE 4333</td>
<td>Production Engineering</td>
<td></td>
</tr>
<tr>
<td>PETE 4343</td>
<td>Reservoir Engineering and Well Testing</td>
<td></td>
</tr>
<tr>
<td>PETE 5303</td>
<td>Petroleum Geomechanics</td>
<td></td>
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<tr>
<td>PETE 5513</td>
<td>Directional Drilling</td>
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<tr>
<td>GEOG 5263</td>
<td>Geospatial Applications for Unmanned Aerial Systems</td>
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<tr>
<td>GEOG 5303</td>
<td>Geographic Analysis I</td>
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</tr>
<tr>
<td>GEOG 5343</td>
<td>Advanced Geographic Information Systems: Resource Management Applications</td>
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</tr>
<tr>
<td>GEOL 5990</td>
<td>Advanced Studies in Geology</td>
<td></td>
</tr>
</tbody>
</table>

**Hours Subtotal**: 12

**Thesis**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Three hours of Capstone Project Course (Professional Internship with a research report)</td>
<td>3</td>
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</tbody>
</table>

**Hours Subtotal**: 3

**Total Hours**: 36

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Most of the courses have prerequisites that can be waived with instructor's consent.

**Retention Requirements**

- The student will complete a Progress Report every semester in consultation with the mentor clearly highlighting previous achievements and immediate expectations, indicating how well the student is progressing towards degree completion.
- Enrollment in minimum of one course per semester or an approved leave of absence.

**Graduation Requirements**

- Completion of a capstone project to the satisfaction of the student's committee along with a written report
- No pending Incomplete ("I") grades in the coursework contributing towards the professional master's degree. A student can take more than 36 credit hours of course work. However, only 36 credit hours of coursework will be counted towards degree completion.

**Graduate College Master's Program Requirements**

Learn more about Graduate College 2022-2023 Master's Degree Program Requirements (http://catalog.okstate.edu/graduate-college/). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.