# GEOSCIENCE, MPSM

## Requirements for Students Matriculating in or before Academic Year 2023-2024

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

**Total Hours:** 36

### Core Courses
Select 9 hours from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 5213</td>
<td>Seismic Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 5383</td>
<td>Sequence Stratigraphy</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 5223</td>
<td>Advanced Methods in Structural Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 5333</td>
<td>Applied Geostatistics</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 5463</td>
<td>Physical Hydrogeology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 5103</td>
<td>Introduction to Geophysical Exploration</td>
<td>3</td>
</tr>
<tr>
<td>MBA 5300</td>
<td>Current Business Topics (Ethics)</td>
<td>3</td>
</tr>
<tr>
<td>MBA 5400</td>
<td>Business Practicum (Project Management)</td>
<td>3</td>
</tr>
<tr>
<td>MBA 5500</td>
<td>Interdisciplinary Inquiry in Business Administration (Descriptive Analytics)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hours Subtotal**: 9

### Option Requirements
Select 12 hours from appropriate option:

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geophysics</td>
<td>GEOL 5103, GEOL 5213, GEOL 5543, GEOL 5990, GEOL 6103, GEOL 6303</td>
</tr>
<tr>
<td>Petroleum Geology</td>
<td>GEOL 5023, GEOL 5253, GEOL 5133, GEOL 5283, GEOL 5353, GEOL 5393</td>
</tr>
<tr>
<td>Advanced Computing</td>
<td>CS 5033, CS 5123, CS 5513, CS 6283, CS 6373, CS 6393</td>
</tr>
<tr>
<td>Hydrogeology</td>
<td>GEOL 5453, GEOL 5463, GEOL 5483, GEOL 6553, CIVE 5033</td>
</tr>
<tr>
<td>Reservoir Management Cluster</td>
<td>PETE 4303</td>
</tr>
</tbody>
</table>

**Hours Subtotal**: 12

### 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
  - ECON 5113 Managerial Economics

- **Business Data Mining (online and certification through Spears)**
  - BAN 5733 Descriptive Business Analytics
  - BAN 5743 Predictive Business Analytics
  - MSIS 5633 Predictive Analytics Technologies
  - MSIS 5643 Advanced Database Management

- **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

- **Reservoir Management Cluster**
  - PETE 4303 Petroleum Rocks and Fluids
PETE 4313  Drilling and Well Completions
PETE 4333  Production Engineering
PETE 4343  Reservoir Engineering and Well Testing
PETE 5303  Petroleum Geomechanics
PETE 5513  Directional Drilling

GEO-Int
GEOG 5263  Geospatial Applications for Unmanned Aerial Systems
GEOG 5303  Geographic Analysis I
GEOG 5343  Advanced Geographic Information Systems: Resource Management Applications
GEOL 5990  Advanced Studies in Geology

<table>
<thead>
<tr>
<th>Hours Subtotal</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis</td>
<td>3</td>
</tr>
<tr>
<td>Three hours of Capstone Project Course (Professional Internship with a research report)</td>
<td>3</td>
</tr>
<tr>
<td>Hours Subtotal</td>
<td>3</td>
</tr>
<tr>
<td>Total Hours</td>
<td>36</td>
</tr>
</tbody>
</table>

1 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 2023-2024 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.