

# 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>).

**Total Hours:** 36

Code	Title	Hours
<b>Core Courses</b>		
Select 9 hours from the following:		9
GEOL 5213	Seismic Interpretation	
GEOL 5383	Sequence Stratigraphy	
GEOL 5223	Advanced Methods in Structural Geology	
GEOL 5333	Applied Geostatistics	
GEOL 5463	Physical Hydrogeology	
GEOL 5103	Introduction to Geophysical Exploration	
MBA 5300	Current Business Topics (Ethics)	
MBA 5400	Business Practicum (Project Management)	
MBA 5500	Interdisciplinary Inquiry in Business Administration (Descriptive Analytics)	
<b>Hours Subtotal</b>		<b>9</b>
<b>Option Requirements</b>		
Select 12 hours from appropriate option:		12
<i>Geophysics</i>		
GEOL 5103	Introduction to Geophysical Exploration	
GEOL 5213	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	
<i>Petroleum Geology</i>		
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	
<i>Hydrogeology</i>		
GEOL 5453	Groundwater Modeling	
GEOL 5463	Physical Hydrogeology	
GEOL 5483	Petroleum Water Management	
GEOL 6553	Contaminant Hydrogeology	
CIVE 5033	GIS Applications for Water Resources	

CIVE 5833	Introduction to Environmental Modeling	
CIVE 5913	Groundwater Hydrology	
CIVE 6843	Stochastic Methods in Hydrology	
SOIL 5223	Soil Chemical Processes and Impact on Environmental Quality	
SOIL 5483	Soil Bioremediation and Sustainability	
SOIL 5583	Soil Physics Measurement Techniques	
<b>Hours Subtotal</b>		<b>12</b>
<b>Clusters</b>		
Select any four courses - courses within a cluster can lead to a graduate certification. <sup>1</sup>		12
<i>Big Data (online and certification available through CS)</i>		
STAT 5093	Statistical Computing	
CS 5783	Machine Learning	
CS 5433	Big Data Management	
CS 5683	Big Data Analytics	
<i>Business Administration (online and certification through Spears)</i>		
MGMT 5113	Individual and Organizational Behavior	
ACCT 5183	MBA Financial Reporting	
FIN 5013	Business Finance	
ECON 5113	Managerial Economics	
MKTG 5133	Marketing Management	
<i>Business Data Mining (online and certification through Spears)</i>		
BAN 5733	Descriptive Business Analytics	
BAN 5743	Predictive Business Analytics	
MSIS 5633	Predictive Analytics Technologies	
MSIS 5643	Advanced Database Management	
<i>Marketing Analytics (online and certification through Spears)</i>		
MKTG 5733	Introduction to Marketing Analytics	
MKTG 5743	Advanced Marketing Analytics	
MSIS 5633	Predictive Analytics Technologies	
MSIS 5303	Prescriptive Analytics	
<i>Advanced Computing</i>		
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	
<i>Energy Management (courses available online and in Tulsa)</i>		
FIN 5003	Introduction to Energy Business	
FIN 5363	Energy Finance	
PETE 5363	Petroleum Economics and Investments	
MSIS 5633	Predictive Analytics Technologies	
<i>Environmental Engineering and Management</i>		
CIVE 5713	Soil Mechanics	
CIVE 5813	Environmental Laboratory Analysis	
CIVE 4123	The Legal & Regulatory Environment of Civil Engineering	
SOIL 4893	Environmental Soil Chemistry	
<i>Reservoir Management Cluster</i>		
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	
<i>GEO-Int</i>		
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	
<b>Hours Subtotal</b>		<b>12</b>
<b>Thesis</b>		
Three hours of Capstone Project Course (Professional Internship with a research report)		3
<b>Hours Subtotal</b>		<b>3</b>
<b>Total Hours</b>		<b>36</b>

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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 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.