

Geology and Geological Engineering

MS in Geology and Geological Engineering

MS in Paleontology

PhD in Geology, Geological Engineering, and Mining Engineering



Recent employers:

- Avocet Environmental, Inc.
- Barrick Gold
- Golder Associates Corporation
- Talon Metals
- United States Geological Survey

We provide students with advanced learning in the classroom and personal faculty mentoring to conduct cutting-edge research. Students have access to research centers and labs at the edge of innovation in areas such as energy and mineral resources, geomechanics, geophysics, groundwater and

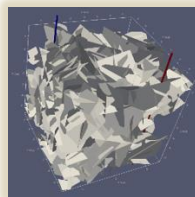
environment, petrology and mineralogy, and paleontology. Students will have a chance to work with faculty at the forefront of their fields and publish in acclaimed journals. A course-work only Master's is also available for the Geology degree.

A few recently funded research assistantships include:

- EarthChem & SESAR Data Infrastructure for Geochemistry and Earth Science Samples Communities
- RII Track 4 Inverse Methods of Hydraulic Fracturing for Enhanced Geothermal Systems in a Deep Mine
- Curation, Digitization, And Access to Fossil Specimens from the Richmond Hill Quarry



Geophysics



Geomechanics



Geobiology



Vertebrate
Paleontology



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www.sdsmt.edu/GGE/

Geology and Geological Engineering

Why Mines?

South Dakota Mines is South Dakota's premier science and engineering university. We are STEM focused. The university enrolls approximately 2,500 students from 45 states and 37 countries. We offer personal attention and hands-on research with a 97% placement rate and high return on investment. South Dakota Mines has an entrepreneurial spirit with support for patent development and company start-ups.



About Rapid City

Rapid City is the 2nd largest city in South Dakota, with a population of approximately 75,000. Just 20 minutes away is the Black Hills National Forest. It is home to Mt. Rushmore, Custer State Park, the Badlands, and other state parks. Outdoor recreation includes hiking, biking, rock climbing, kayaking, horseback riding, zip lining, golfing, fishing, hunting, and more! Downtown Rapid City offers art galleries, museums, live music, casual and fine dining, and outdoor entertainment. Find out more at www.visitrapidcity.com.

Admission Requirements

Background requirements

Applicants are expected to have a BS degree in geology, geological engineering, paleontology, mining engineering, or a closely related field that includes calculus/statistics, physics, chemistry, and core geology subjects. Applicants from other backgrounds are encouraged to consult with the program coordinator prior to applying and may be required to complete additional undergraduate coursework that does not count toward the graduate degree.

Admission requirements

Required application materials include U.S. transcripts or international transcript evaluations, statement of purpose, three letters of recommendation, and evidence of English proficiency. Inclusion of a resume is encouraged. The GRE is not required. Our application deadline is February 1.

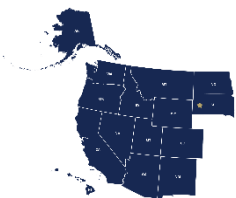


**Request more
information**

apply.sdsmt.edu/register-gr-info-request

Accreditation

South Dakota Mines is accredited by the regional Higher Learning Commission (HLC), a commission of the North Central Association of Colleges and Schools (NCA).



South Dakota Mines is part of the Western Regional Graduate Program, a consortium of universities offering affordable graduate education to residents from 16 states. Contact us to inquire about other reduced tuition rates.

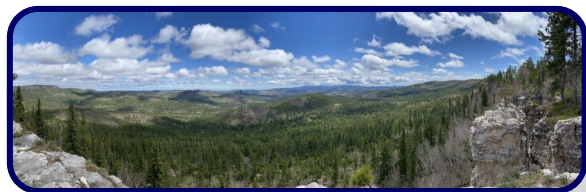
Department Research Areas

The main research focus areas in Geology & Geological Engineering are:

- **Energy and Mineral Resources**
- **Geomechanics (surface and underground)**
- **Geophysics (geodynamics and seismology)**
- **Groundwater and Environment**
- **Paleontology**
- **Petrology and Mineralogy**
- **Structure and Tectonics**

Department Strengths

- Proximity and diversity of geology in the Black Hills region allowing for practical, field-based education and research
- Affiliation with SD Mines Museum of Geology with extensive mineral, vertebrate, and invertebrate collections
- Affiliation with the Sanford Underground Research Facility in Lead, SD
- Teaching and research funding available to qualified and selected graduate applicants
- Strong reputation with universities and companies for quality programs and graduates
- Strong collaborations with industry and government organizations
- International education opportunities, especially through field trips, field research, and summer field camps
- Outstanding placement of graduates in career positions
- The Geological Engineering program is one of only 13 programs in the U.S.
- The MS in Paleontology is the only such program in the nation



Applying to SD Mines

Applications are reviewed continuously. Acceptance decisions and assistantship awards will be made by March 1 for the Fall semester and September 15 for the Spring semester, for applications received by the deadlines below. Applications received after the deadline will still be considered for admission, but the likelihood of funding is reduced.

Recommended Application Dates	Fall	Spring
All applicants applying for assistantships and International applicants	February 1	August 1

Required Application Materials for Geology and Geological Engineering:

- Completed application form
- \$35 application fee
- Official transcripts, including evidence of your bachelor's degree and geology field camp
- Third party transcript evaluation of all international transcripts
- Personal statement of goals and research interests
- Evidence of English proficiency (required for all international applicants)
- Three letters of recommendation

For further information contact

South Dakota School of Mines and Technology

501 E. St. Joseph St., Rapid City, SD 57701

Email: Graduate.Admissions@sdsmt.edu

<http://www.sdsmt.edu/Academics/>

[Graduate-Education/](http://www.sdsmt.edu/Graduate-Education/)

Department Webpage at <http://geology.sdsmt.edu/>



SOUTH DAKOTA MINES

An engineering, science and technology university

Geology and Geological Engineering, M.S. & Ph.D.



The graduate programs in the Department of Geology and Geological Engineering equip geologists, geological engineers and paleontologists with strong technical backgrounds, significant research opportunities, and excellent field and laboratory experiences, so they are well prepared to succeed in a diverse global environment.

Geology and Geological Engineering faculty conduct research in these main areas: Energy and Mineral Resources, Geomechanics, Geophysics, Groundwater and Environment, Paleontology, Petrology and Mineralogy, and Structure and Tectonics. Students focusing in geology should have an undergraduate geology or related degree, including field camp. Students focusing in Geological Engineering are expected to have a background in geology or geological engineering, or plan to make up deficiency courses prior to admission.



Welcome to South Dakota Mines

South Dakota Mines is a leader in providing 21st century education that reflects a belief in the role of engineers and scientists as crucial to the advancement of society.

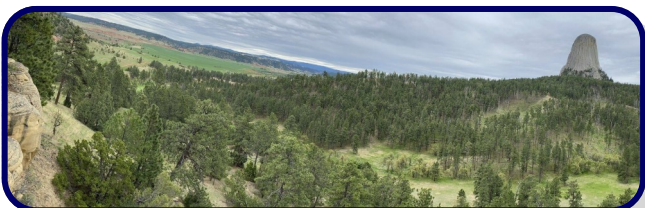
For the 2023-2024 academic year, SD Mines educates 2,492 students. We are a university with a world-wide reputation as an outstanding engineering and science institution.

Financial Assistance

Financial assistance is available in the form of assistantships and fellowships. Students with a qualifying assistantship are entitled to a reduced tuition rate. For a master's student, the value of a 20-hour per week assistantship with tuition remission typically ranges from \$17,000 to \$25,000 for the academic year. Ph.D. stipends are typically higher. Additional summer support may also be available. You will automatically be considered for assistantship support based on information provided on your application. No further application materials are required. Graduate students wishing to be considered for assistantships and fellowships must submit their application by February 15. Federal financial aid is also available for qualifying U.S. citizens and eligible noncitizens.

Accelerated Master's program

The accelerated MS program in Geology & Geological Engineering is offered for SD Mines Geology and Geological Engineering seniors. Nine credits applied toward the B.S. program may be used to satisfy graduate credit requirements in the accelerated MS program. Students must be admitted to the program and have courses approved prior to registration in order for the course to be double counted. Only courses taken at SD Mines at the 500- and 600- level are eligible for dual credit.



Program Faculty and Staff

Duke, Edward F. Professor of Geology: Petrology and geochemistry of igneous and metamorphic rocks, remote sensing, and infrared spectroscopy

Fox, Nathaniel S. Instructor of Geology: Quaternary paleoecology, small mammals, geometric morphometrics

Hall, Robert A. Interim Department Head and Professor of Mining Engineering and Management

Johnson, Kayleigh A. Instructor of Geology: Exhibit design, vertebrate fossil preparation and conservation

Karnes, Victoria M. A. Instructor of Geology: Geographic Information System (GIS) database design, hyperspectral data mapping, and planetary geology

Katzenstein, Kurt W. Associate Professor of Geological Engineering: Slope stability, rock mechanics, and measuring surface deformation with radar interferometry

Keenan, Sarah W. Assistant Professor of Geology: Paleobiology, vertebrate taphonomy, low temperature geochemistry, geomicrobiology, and soil biogeochemistry

Li, Liangping Associate Professor of Geological Engineering: Groundwater modeling, geostatistics, and stochastic hydrogeology

Masterlark, Timothy L. Professor of Geology: Geodynamics, deformation modeling using finite element modeling, hydrogeology, and geofluids

Pagnac, Darrin C. Professor of Geology: Biostratigraphy, systematics, biogeography, and faunistics of Miocene mammals and late Jurassic vertebrate faunas

Pellowski, Christopher J. Instructor of Geology: Field geology and mineral resources

Stetler, Larry D. Professor of Geological Engineering: Earth surface processes, 3-D imaging, eolian dynamics, and environmental and groundwater applications

Ustunisik, Gokce K. Associate Professor of Geology: Experimental igneous and planetary petrology, high P-T geochemistry, chemical volcanology, apatite synthesis, and crystal chemistry and stability

Uzunlar, Nuri Professor of Geology: hydrothermal and geothermal systems, ore deposits, and active tectonics in Anatolia

Waldien, Trevor S. Assistant Professor of Geology: Tectonics, structural geology, geochronology, and fault system evolution

Ward, Kevin M. Assistant Professor of Geology: 3-D surface wave tomography, converted wave imaging, orogenic systems, evolution of large silicic magmatic systems, and large-N seismic deployments

Wright, Samantha N. Instructor of Geology: Vertebrate paleontology preparation and conservation

Ye, Zhi Assistant Professor of Geological Engineering: Geomechanics, Experimental rock deformation, Geo-energy and storage, and induced seismicity

Rapid City and SD Mines

The South Dakota Mines campus is located in Rapid City, the second largest city in South Dakota. Recreational activities include skiing, hiking, rock climbing, fishing, spelunking, snowmobiling, and more.

- Rapid City population: 78,824 (2022)
- Located at the foot of the Black Hills
- #1 Town for Sportsmen according to Outdoor Life magazine
- Sightseeing attractions: Mount Rushmore National Monument, Badlands National Park, Crazy Horse Memorial
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- Average January temperature of 23°F (-5°C)
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South Dakota Mines is very safety conscious. Residence halls have controlled access and no alcohol is allowed on campus. We have lighted pathways and our 24 hour safety office offers services such as late night escort.



Ivanhoe International Center

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There are a number of student organizations at the School of Mines that provide support and friendship for international students. These are provided on our web site listed above.

Research

Graduate programs in the Department of Geology and Geological Engineering equip geologists, geological engineers and paleontologists with strong technical backgrounds, significant research opportunities, and excellent field and laboratory experiences, so they are prepared to succeed in a diverse global environment.

Program Research Areas

Paleontological research at SD Mines spans diverse subject areas including paleobiology, paleoecology, taphonomy, biostratigraphy, geomicrobiology, biogeochemistry, biogeography, and phylogenetics. Faculty and students combine field research in both modern and ancient settings with museum studies and laboratory analyses to reconstruct past paleoenvironmental conditions and reveal their ecological and evolutionary consequences through geologic time. Collectively, research is focused on four key paleontological questions:

- How do organisms respond to environmental changes and adapt to different environments?
- How is biological diversity distributed across space and time?
- How are paleontologic resources best used and conserved for scientific study?
- How do modern processes drive fossil formation and preservation in different environments?

Understanding the relationships between organisms and their environments is important for interpreting the evolutionary history of the biosphere and for predicting future biotic responses to climate change.

Current study systems include:

- Modern and fossil bone geochemistry and diagenesis;
- Microbial interactions with vertebrates and bones in modern systems;
- Modern Freshwater and coastal biomes of tropical America;
- Neogene sequences rich in microfossils and invertebrates from the Western Atlantic Ocean;
- Cenozoic terrestrial deposits with rich mammalian faunas;
- Cretaceous marine deposits from the Western Interior Seaway.



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Email: Graduate.Admissions@sdsmt.edu

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Graduate-Education/

Department Webpage at <http://geology.sdsmt.edu/>



SOUTH DAKOTA MINES

An engineering, science and technology university

Paleontology, M.S.



The M.S. degree in paleontology, which is offered through the Department of Geology and Geological Engineering, is the only such advanced degree in the United States. This degree program is designed for students or professionals who wish to pursue advanced training in the study of geologic and evolutionary history of Life on Earth. The program emphasizes paleontology from a geological perspective, and includes opportunities for coursework and research in paleoecology, paleoclimatology, taphonomy, systematics, stable isotope and trace element applications, biostratigraphy, paleontological resource management, curation, vertebrate preparation, and exhibit design. Resources available to participants in the master's program in paleontology include the extensive collections of the Museum of Geology, analytical facilities in the Martin Paleontology Research Laboratory, and field education and research projects.



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GGE Department Research Facilities

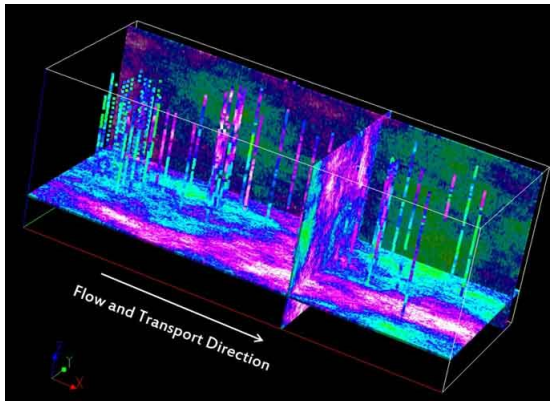
Interim Department Head:
Dr. Robert Hall
Geology/Geological Eng.
MI-303 605-394-2461
Robert.Hall@sdsmt.edu

GGE Departmental Lab Facilities:

The Department of Geology and Geological Engineering hosts the following laboratory/research facilities:

Subsurface Flow and Transport Modeling Laboratory:

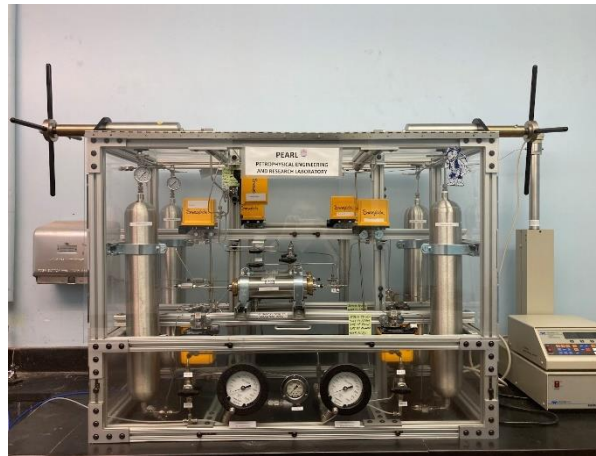
- GMS, MODFLOW, and AQTESOLV analytical software.
- On-campus operational well field (piezometers and pumped well) with data loggers and pressure transducers.
- Sand Tank models.
- Bailers, well sampling equipment, water level measurement, and sonic water level indicator.



Hydraulic conductivity modeling using geostatistics

Subsurface Geology and Geological Engineering Laboratory:

- Computer labs with PC workstations for 15 users.
- Three Hess workstations with Schlumberger software packages:
 - Eclipse Reservoir Simulators
 - Petrel E&P
 - PIPESIM Flow Modeling
 - Techlog Wellbore Software
 - Ocean
- Three Baker Hughes workstations with JewelSuite™ Subsurface Modeling software.
- Geophysics equipment:
 - Ground-penetrating radar
 - 24-channel seismic recorder
 - Proton precession magnetometer
- High-precision Core Analysis Apparatus (HPCA) – measuring gas permeability and porosity of rock cores



High-precision Core Analysis Apparatus (HPCA)

Virtual Earth Research Facility:

- Computer labs with PC workstations for 15 users (additional three Hess workstations shared with Subsurface laboratory) with ArcGIS and ENVI software.
- Canon imagePROGRAF TX-4000 MFP T40 plotter/scanner.
- Linux workstations for processing satellite-based radar data (InSAR).

Geomechanics Laboratory:

- Soil shear box
- ROCTEST point load tester
- Schmidt (concrete test) hammers
- Rock-shear strength apparatus
- Vibrating wire extensometers
- GCTS Triaxial Load Frame system with pulse-decay permeameter
- Mobile drilling rig (auger)
- 3D photogrammetry system
- 3D modeling system using a quadcopter, ground-based LiDAR scanner (shared with Virtual Earth)



GCTS Triaxial Load Frame system with pulse-decay permeameter

High Performance Computing Laboratory:

- *Hephaestus*: LINUX OS 48-core CPU node, 196GB RAM, GPU node with 7 GPU cards, and 10x teraflop performance.
- Heavy workstations equipped with 12-core CPUs, 96GB RAM, and GPU cards.
- Software for Numerical Modeling:
 - Abaqus (finite element analysis)
 - IDL (general purpose data analysis)
 - Rhino3D (industry-standard CAD)
 - Petrel (reservoir simulation)
 - ISCE (InSAR processing code from NASA JPL)

Experimental Petrology Laboratory:

- Two one-atmosphere quench and gas mixing furnaces
- Lindberg Platinum horizontal furnace and Lindberg box furnace
- Mini torch/welding tool for capsules
- Optical microscopes and imaging software
- Sample processing lab with rock saws, rock crushers, and polishing wheels, 0.1 mg scale



Experimental Petrology Laboratory

James E. Martin Paleontology Research Laboratory (MRPL):

- Repository for federal, state, and tribal agencies
- Major collections include:
 - Mineralogy/Petrology
 - Paleobotany
 - Invertebrate Paleontology
 - Micropaleontology
 - Vertebrate Paleontology
 - Modern Vertebrates and Invertebrates
 - Maps and archives
- Specialized laboratories:
 - Foster Preparation
 - Frank M. & Gertrude R. Doyle Fabrication
 - Sample Processing
 - Imaging
 - Geobiology



Foster Preparation Laboratory - MPRL



Sample Processing Laboratory - MPRL

Other research facilities on-campus:

Engineering and Mining Experiment Station (EMES):

- Scanning electron microscopy (SEM)
- X-ray diffraction (XRD)
- Inductively coupled plasma mass spectrometry (ICP-MS)
- Ion chromatography (IC)
- Total organic carbon analyzer (TOC Analyzer)
- Gas chromatography mass spectrometry (GC-MS)
- UV-Vis Spectroscopy
- High-resolution 3D X-ray microscopy (MicroXCT)
- Transmission electron microscopy (TEM)
- Atomic force microscopy (AFM)
- Field-portable instrumentation
 - Visible/near infrared (Vis/NIR) spectrometer, Raman spectrometer, X-ray fluorescence (XRF) spectrometer, laser induced breakdown spectrometer (LIBS)



Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

SD Mines GGE Dept. four-semester course rotation for graduate courses – 2022 - 2024

Semester	Course Number	Course Title
Fall	GEOE 556/L	Statistical Methods in Geology and Geological Engineering/Lab
Fall	GEOE 566/L	Engineering and Environmental Geology/Lab
Fall	GEOE 567	Introduction to Geomechanics
Fall	GEOE 575/L	Groundwater/Lab
Fall	GEOE 700	Developing and Planning Research
Fall	GEOE 790	Seminar
Fall	GEOL 516/L	Introduction to Geographic Information Systems/Lab
Fall	GEOL 519	Advanced Geospatial Analysis
Fall	GEOL 520/L	Introduction to Remote Sensing/Lab
Fall	GEOL 521	Aqueous Geochemistry
Fall	GEOL 656L	Scanning Electron Microscopy Lab
Fall	GEOL 700	Developing and Planning Research
Fall	GEOL 790	Seminar
Fall	GEOL 808	Fundamental Problems in Engineering and Science
Fall-even	GEOL 572/L	Museum Collections Management/Lab
Fall-even	GEOL 633/L	Sedimentation/Lab
Fall-even	GEOL 710	Advanced Mapping Techniques
Fall-even	GEOL 7xx	Global Seismology
Fall-even	PALE 771/L	Paleobiology/Lab
Fall-even	PALE 773	Quantitative Methods in Paleontology
Fall-odd	GEOE 782/L	Fluvial Processes/Lab
Fall-odd	GEOL 556/L	Global Geophysics/Lab
Fall-odd	GEOL 573/L	Museum Exhibit Design/Lab
Fall-odd	GEOL 722	Advanced Structural Geology
Fall-odd	GEOL 728	Linear Inverse Methods
Fall-odd	PALE 775/L	Phylogenetic Systematics/Lab

Semester	Course Number	Course Title
Spring	GEOE 561	Geothermal and Production Engineering
Spring	GEOE 575/L	Groundwater/Lab
Spring	GEOE 582/L	Applied Geomorphology/Lab
Spring	GEOE 790	Seminar
Spring	GEOL 516/L	Introduction to Geographic Information Systems/Lab
Spring	GEOL 517	Geospatial Databases
Spring	GEOL 624L	Analytical Methods in Geochemistry Lab
Spring	GEOL 790	Seminar
Spring-even	GEOE 768	Engineering Geology of Surficial Deposits
Spring-even	GEOE 7xx	Advanced Geomechanics
Spring-even	GEOL 535	Geomicrobiology
Spring-even	GEOL 575/L	Vertebrate Fossil Preparation and Conservation/Lab
Spring-even	GEOL 744	Volcanology
Spring-even	PALE 772	Terrestrial Paleoecology
Spring-odd	GEOE 562/L	Well Logging and Core Analysis/Lab
Spring-odd	GEOE 711	Synthetic Aperture Radar Interferometry
Spring-odd	GEOE 766/L	Applied Groundwater Flow and Transport Modeling/Lab
Spring-odd	GEOL 532	Geochronology
Spring-odd	GEOL 544	Orogenic Systems
Spring-odd	GEOL 574	Paleontological Resource Management
Spring-odd	GEOL 576	Petroleum Geology
Spring-odd	GEOL 624L	Analytical Methods in Geochemistry Lab
Spring-odd	GEOL 632	Rocky Mountain Stratigraphy
Spring-odd	GEOL 721	Planetary Geology
Spring-odd	GEOL 725	Geodynamics
Spring-odd	PALE 774	Paleoenvironments
Summer	GEOL 571	Field Paleontology

Employers hiring SD Mines graduate students in Geological Engineering, Geology, and Paleontology: 2000-2020

MS – Geological Engineering

A.G. Wassenaar, Inc.	Inberge-Miller Engineers
Barr Engineering	Intrepid Potash
Barrick Gold Corp.	MWH-Global
Black Hills Corporation – Wyodak Mine	Ogalala Lakota College
CH2M Hill Companies, Ltd.	Pathfinder
Cleath-Harris Geologists	RESPEC, Inc.
Earth Resources Technology	S&ME, Inc.
Geomega	Sibanye-Stillwater
GeoStabilization International	Strata Energy
Geosyntect Consultants	U.S. Geological Survey

MS – Geology

Atlantic Testing Laboratories	NY State Geological Survey
Austin Peay State University	Nyrstar Tennessee Mining
Barrick Gold Corp.	Oasis Petroleum
Beta Analytic	Occidental Petroleum Corp.
Cleveland-Cliffs, Inc.	Ogalala Lakota College
Custer County, SD	Panhandle Geotechnical and Environmental, Inc.
EnergieKontor US, Inc.	SD Dept. of Environment and Natural Resources
Freeport-McMoRan, Inc.	SD Game, Fish and Parks
Goldcorp, Inc.	SD State Geological Survey
Golder Associates, Inc.	Stillwater Mining
Haile Gold Mine	Strata Energy
Halliburton	Univ. of Central Florida
Hecla Mining – Greens Creek	U.S. Forest Service – Black Hills
Hess Corp.	U.S. Forest Service – Klamath
John T. Boyd Company	WY State Geological Survey
Malin Space Systems	

MS – Paleontology

Academy of Natural Sciences of Drexel Univ.	National Park Service – Wind Cave
American Museum of Natural History	National Park Service – Yellowstone
Applied EarthWorks, Inc.	Natural History Museum of Utah
Arcadis – USA	Quality Services, Inc.
Arizona Museum of Natural History	Rocky Mountain Paleo Solutions
ATC Group Services, LLC	Salem County Community College
EPG, Inc.	SDSM&T – Museum of Geology
Intermountain Paleo Consulting	Smithsonian – National Museum of Natural History
Iowa Western Community College	SWCA Environmental Consultants
Judith River Dinosaur Institute	The Field Museum of Natural History
Museums of Western Colorado	The Mammoth Site
National Park Service – Badlands	Univ. of AZ – Laboratory of Tree-Ring Research
National Park Service – John Day Fossil Beds	

Employers hiring SD Mines graduate students in Geological Engineering, Geology, and Paleontology: 2000-2020

PhD – Geological Engineering

EnVision Engineering	SD State Geological Survey
Halliburton	Shaw Group
RESPEC, Inc.	U.S. Geological Survey

PhD – Geology

Chesapeake Energy Corp.	Occidental Petroleum Corporation
ExxonMobil	SDSM&T – Dept. of Geol. and Geol. Eng.
KIC Oil and Gas Associates, Inc.	SDSM&T – Dept. of Mechanical Engineering
Northern Illinois University	Wind Lake Solutions

PhD – Geology (with paleontology emphasis)

Arcadis – USA	National Park Service - Badlands
Black Hills State University	Siesmo Electronics
Cogstone Resource Management, Inc.	

Post-graduate universities attended by SD Mines students

Colorado School of Mines	University of Canterbury – New Zealand
James Cook University – Australia	University of Chicago
McMaster University – Canada	University of Minnesota
Montana State University	University of North Carolina
Northwestern Science and Technology Univ. - Norway	University of North Dakota
South Dakota School of Mines and Technology	University of Rhode Island
University of Alabama	Washington University
University of California – Riverside	

We are pleased that you are interested in graduate school at the South Dakota School of Mines and Technology, in the Department of Geology and Geological Engineering.

Admissions guidelines and procedures for the South Dakota School of Mines graduate programs can be found on this page: <http://www.sdsmt.edu/Academics/Graduate-Education/Prospective-Graduate-Students/>

Additional information of international students can be found here:
<http://www.sdsmt.edu/international/>

The TOEFL, IELTS, Duolingo or PTE exam is required for students whose native language is not English.

Here are some answers to questions commonly asked by students preparing to apply to one of the degree programs in the Department of Geology and Geological Engineering.

When is my application due?

Applications are due on February 15 for the next Fall semester and August 15 for the next Spring semester. Applications submitted after the due date will still be considered but are less likely to be offered financial support. Because most or all of our funding is committed to students entering in the fall semester, we rarely have funding to support students starting in the spring. We recommend that students who desire funding apply by February 15 and start in the fall.

What are your criteria for admission?

Many factors contribute to the success of an application, including the goals statement, coursework, grades, test scores, work experience, recommendations, and availability of a faculty member in the student's anticipated research area. In general, we prefer to see a GPA of 3.0 or above. Different specializations have different background coursework requirements, as described in the online catalog:

Geology/Geological Engineering background requirements (M.S.):

https://ecatalog.sdsmt.edu/preview_program.php?catoid=31&poid=3300&returnto=9962

Geological Engineering background requirements (Ph.D.):

https://ecatalog.sdsmt.edu/preview_program.php?catoid=31&poid=3301&returnto=9962

Geology background (includes emphasis in paleontology) requirements (Ph.D.):

https://ecatalog.sdsmt.edu/preview_program.php?catoid=31&poid=3357&returnto=9962

Paleontology background requirements (M.S.) (same as Geology):

https://ecatalog.sdsmt.edu/preview_program.php?catoid=31&poid=3306&returnto=9962

What are my chances of admission?

Because we consider the entire application, we cannot speculate on your chances of admission informally from your resume or test scores. We will only evaluate a full application.

What kind of research would I be doing?

Successful applicants are paired immediately with a faculty advisor in the area of your research interest. Before applying, please review our faculty research pages to determine what research areas we cover; we are unlikely to admit students with interests outside these areas. You are encouraged to contact individual faculty to discuss potential research projects that might be available.

<https://www.sdsmt.edu/Academics/Departments/Geology-and-Geological-Engineering/Research/Research/>

What are my chances of financial support?

Funding may take two forms: teaching assistantships (GTA) or research assistantships (GRA). We typically offer about six full-time (20 hours per week) GTA positions in which students work with faculty to teach and grade laboratory sections of undergraduate courses. Awards are currently made for one academic year, primarily to first-year students, although some students may be invited to teach additional semesters. GRA positions are available when faculty have research grants but vary widely in availability and timing. We recommend that you talk to individual faculty about potential research support.

Do I have to apply separately for funding?

You do not need to apply separately for funding. We automatically consider all admitted applicants for funding. However, because of limited availability, not all admitted students receive support. Awards are usually made to the most academically qualified students with good research interest matches to the faculty.

When will I know if I am accepted?

We recommend that you apply to start in the Fall semester, for which applications are due the previous February 15. If you complete your application by the due date, you will hear from us about March 1 concerning your admission and potential funding. At that time, you may be admitted with funding, admitted as an alternate for funding, admitted without funding, or declined for admission. Applicants with award offers must accept the offer in writing within 30 days, or it will be re-awarded to an alternate.

All other applicants, including late applicants after February 15, and applicants applying for Spring admission, will generally hear about the application within 3-4 weeks after the application is complete. However, funding for late and spring applicants is not usually available.

Please let us know if you have any additional questions.