

Department of Geological Sciences

**Geoscience
Major**

**Undergraduate
Degree**



**SAN DIEGO STATE
UNIVERSITY**



DEPARTMENT OF GEOLOGICAL SCIENCES
San Diego State University
5500 Campanile Dr.
San Diego, CA 92182-1020



www.geology.sdsu.edu

Phone: 619-594-5586
Fax: 619-594-4372



Geological Sciences

Chairman's **W**elcome

Welcome! The Department of Geological Sciences is a group of 38 active faculty, lecturers, support personnel, and most importantly over 100 enthusiastic and talented undergraduate and graduate students. We offer a major in geological sciences with a Bachelor of Science or Master of Science degree. Students entering this program can choose one of the following emphases, depending on their specific interests: general geology, engineering geology, geochemistry, geophysics, hydrogeology, marine geology, paleontology or geoscience education. San Diego State University is an academically rich, urban university that provides endless possibilities for students. SDSU is a place to challenge yourself, to take your education into your own hands and carve out your future. We will help to make your undergraduate education more meaningful and personal, fostering closer interaction with faculty members and fellow students. Learning does not just take place in the classroom, but also by the opportunities that arise with involvement elsewhere on campus, in the laboratory, in field research, and in the local community. If you are considering a science course, interested in pursuing a major, or contemplating graduate school, feel free to come by and visit our Department.



Dr. Gary H. Girty
Department Chair

Why Geosciences

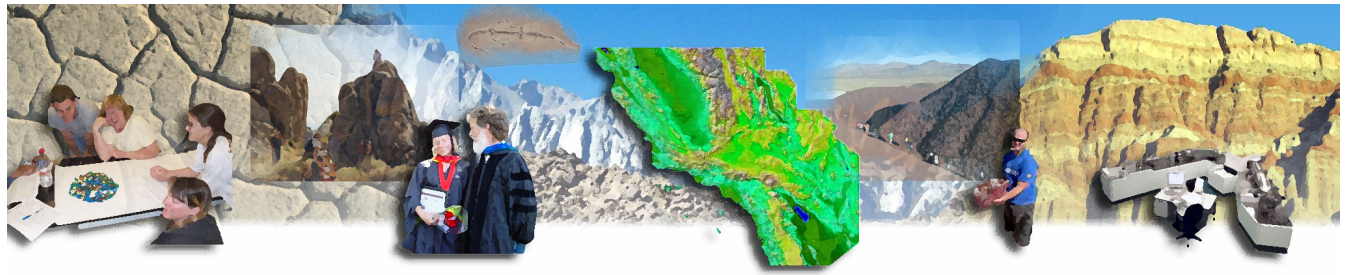
- Do you find the prospect of working on a wide range of Earth-related issues, from resource management to environmental protection exciting?
- Do you enjoy working outdoors? Travel?
- Do you enjoy puzzle solving and working across scales, using details to solve wider problems?

Then the geosciences may be an interesting career path to investigate.

Nature of Work

A geologist is a scientist who studies the earth - its origin, history, and structure. The field of geology is very diverse, as diverse as the Earth itself. The world we live on is a spectacular natural laboratory just waiting to be explored, its secrets discovered, and its processes understood. Geologists use their observations to form theories about how the Earth works, how it is structured, and of what materials it is composed. Studying rocks and their minerals can tell us much about the history of the Earth. Geologists collect information by drilling holes and by collecting rock and soil samples from the surface. They then examine these samples in great detail and try to recreate the events that led to the rocks being formed and deposited.

There are many branches of geology. Mineralogists and petrologists study minerals and rocks. Geophysicists and geochemists study the physical and chemical aspects of the Earth and its rocks. Seismologists and volcanologists study and help predict earthquakes and volcanic eruptions. Economic, exploration, mining, and petroleum geologists help to find and develop natural resources such as precious metals and oil. Hydrologists study water flow and water resources. Geological engineers advise construction engineers on the foundation stability of dams, buildings, and highways. Paleontologists study fossils and the record of life on Earth. Environmental geologists work to understand and protect the environment. So you see, the sky is the limit when studying geology!



Opportunities

The prospect of diverse, interesting, and challenging career opportunities is one of the strongest reasons to consider majoring in Geological Sciences at San Diego State University. World population growth, diminishing non-renewable energy and material resources, and consequences of global warming have brought the geosciences to the



forefront of societal concerns and public policy issues. Career options are wide ranging and include jobs in resource exploration and management, technical consulting, engineering, environmental sciences, as well as

K-12 and postsecondary education. There is a multitude of different jobs in the private sector as well as federal, state and local governmental agencies.

Geosciences here at SDSU

The Geological Sciences Department at SDSU is a big and superbly equipped organization that provides students with the foundation for successful entry into geoscience careers across the board. Computer and analytical facilities compare favorably with top universities across the nation. Undergraduate major emphases in general geology, hydrology, paleontology, geochemistry, geophysics, marine geology and geoscience education reflect the size and breadth of the department. SDSU students not only study the Earth, they see a lot of it firsthand - from the Sierra Nevada to Baja California, from New Mexico to New Zealand.



A bachelor's degree in geology or geophysics is a great place to start your geology career, but as with most college

degrees, better jobs with good advancement potential usually require a master's degree and SDSU has one of the most successful geoscience MS programs in the nation.



There are also many non-traditional career paths that can benefit from a University-level degree in the geosciences, including science journalism, popular fiction writing, public policy, environmental or patent law, as well as others. Student interest and imagination in pursuing a non-traditional career path is supported in the SDSU program by flexibility in course requirements that cater to specific career goals.

More Information

Visit the Department of Geological Sciences web site:
www.geology.sdsu.edu

Or call and visit our Department

Dr. David Kimbrough, Undergraduate Advisor 619-594-1385

Dr. Kathy Thorbjarnarson, Graduate Advisor 619-594-1392

Dr. Gary Girty, Department Chair 619-594-2552

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GMCS Building 237

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