Majors

GEOLOGY B.S.

Geology is concerned with the structure and evolution of the Earth. The major entails the application of fundamental physics and chemistry to a broad subject area. Disciplines include petrology and mineralogy, sedimentology, structural geology and tectonophysics, seismology, and the Earth's interior.

ENGINEERING GEOLOGY B.S.

Engineering geology is the science of the structure and evolution of the Earth, with an emphasis on civil and environmental engineering. Students learn about rocks and minerals and the processes that formed them. Field work includes the study of mountain, beach, and desert areas. Coursework in engineering helps to evaluate possible geologic hazards such as landslides, landfills, waste disposal sites, groundwater contamination, and earthquake damage to buildings.

GEOPHYSICS B.S.

Geophysics and space physics is the quantitative description of the Earth, planets, satellites, small solar system bodies, and the inter-planetary medium. Students develop strong backgrounds in physics and mathematics as well as a foundation in Earth, planetary, and space sciences. Specializations include applied geophysics, marine geophysics, solid earth geophysics, planetary geophysics, and space physics. Data sources include satellites, telescopes, and field studies.

EARTH & ENVIRONMENTAL SCIENCE B.A.

The Bachelor of Arts program in Earth sciences is intended to provide a broad background in Earth sciences that is especially appropriate for students intending to become K through 12 teachers in Earth, physical, or life sciences. It may also be of interest to students who plan careers in environmental sciences, law, government, business, journalism, public health, medicine or dentistry.

An EPSS graduate student teaches orienteering and mapping to undergraduate students in the Poleta Fold Area during the annual summer field program.

Minors

GEOLOGY MINOR

Geology is the study of the surface of the Earth and the rocks and processes that created it. We use field methods, interpretation of rocks, and plate-tectonic models to find valuable or hazardous materials and infer geologic history.

GEOCHEMISTRY MINOR

The geochemistry minor emphasizes the use of minerals, magmas, elements, and isotopes to date events, determine rates, and track matter through its cycles in the planets and biosphere.

GEOPHYSICS & PLANETARY PHYSICS MINOR

Satellite, telescopic, and field data are used to understand processes such as ocean circulation, earthquakes, the formation of planets, and the flow of particles and electromagnetic fields in space.

EARTH & ENVIRONMENTAL SCIENCE MINOR

In this minor, students study the interaction of the solid Earth, the oceans, and the atmosphere with human activities.

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UCLA

Earth, Planetary, and Space Sciences

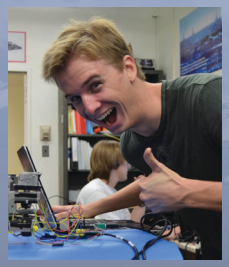
Understanding and protecting our home in the universe

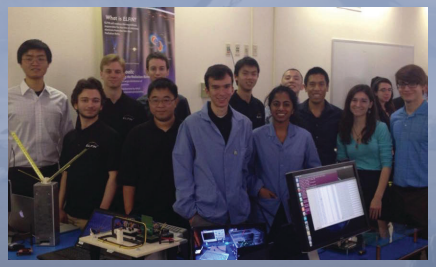
About EPSS

The geosciences program at UCLA is ranked in the top ten worldwide with an internationally renowned and diverse faculty. The department offers a 3:1 student-to-faculty ratio, providing a wide array of research opportunities. UCLA boasts one of the most dynamic campuses in the world with a vibrant intellectual climate and a vast range of cultural, athletic, and entertainment venues. UCLA is located minutes from both the ocean and the mountains.

Our Preparation

Our students are trained in the physical, chemical, and biological sciences, as well as in mathematics and computer science. This preparation gives them the confidence, knowledge, and skills they need to address a wide range of important problems concerning the Earth, the solar system, the space environment, and the origin and evolution of life. Students also learn about natural hazards in order to help protect humanity from earthquakes, tsunamis, space weather, and asteroid impacts. Our undergraduate majors prepare students for advanced technical degrees and a wide array of professional careers.





Undergraduate students are designing and building small satellites that will study the behavior of electrons in the Earth's magnetosphere. The ELFIN mission will launch in 2018.

Resources & Activities

Our department houses state-of-the-art laboratory facilities used by scientists worldwide. It has one of the largest meteorite collections in the country and it is a major partner in the Southern California Earthquake Center. The department has an impressive record of leading or participating in NASA spacecraft missions. Our faculty members are leading NASA's Dawn mission to asteroids Ceres and Vesta and the THEMIS mission that studies space weather. EPSS scientists participate in missions to the Moon, Mercury, Mars, and the outer solar system. ELFIN is a CubeSat mission built by UCLA undergraduates under EPSS leadership.

The department sponsors a wide range of academic, outreach, and recreational events. Hundreds of distinguished visitors and guest lecturers come to UCLA each year. Several public talks are given each week by these visitors and by our own faculty, students, and researchers. Annual field trips, formal and informal gatherings, and recreational activities add to the departmental spirit.

We maintain a vigorous program in field geology with opportunities for research in the field. All of our students are encouraged to participate in student organizations including the Bruin Geological Survey and the EPSS Student Organization (EPSSSO).

Beyond Your Degree

While the majority of our students pursue careers in science or technology, some go on to careers in business, law, education, or health care. A major in Earth, Planetary, and Space Sciences will provide an exciting and rewarding curriculum and will open the door to many career options.

Alumni of the Department of Earth, Planetary, and Space Sciences are employed in academic positions at over 100 colleges and universities worldwide, in more than 30 nonprofit and government organizations, and in various industries in the private sector.

Undergraduate students explore lava fields during an igneous petrology course field trip to Hawaii.