

# SCSU PROFESSOR EXTRACTS TEACHING MATERIALS FROM ANTARCTIC SEDIMENTS

Kate Pound, a geologist and St. Cloud State University associate professor in the Department of Earth and Atmospheric Sciences, traveled to Antarctica to help develop innovative educational and public outreach projects.

Pound was one of six educators who participated in the 2007-2008 ANDRILL Research Immersion for Science Educators (ARISE).

ANDRILL (ANtaric geological DRILLing) is a collaboration of more than 100 scientists, students, and educators from Germany, Italy, New Zealand, the United Kingdom and the United States.

ANDRILL's engineers drill through the Antarctic ice to reach the sea floor at various target areas to remove cores of sediment that inform the scientists about paleoenvironmental changes over the last several million years. At research centers, scientists study the cores to determine the length and frequency of warming and cooling trends in the region — information that also informs scientists' predictions about future climate change.

## Earth & Atmospheric Sciences DEPARTMENT

P: (320) 308-3260

F: (320) 308-4262

41 Robert H. Wick Science Building  
St. Cloud State University  
720 Fourth Avenue South  
St. Cloud, Minnesota 56301-4498

<http://www.stcloudstate.edu/eas>



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College of Science and Engineering

# Earth & Atmospheric Sciences



# Earth & Atmospheric Sciences

Earth and Atmospheric Sciences (EAS) encompasses a broad range of interdisciplinary fields built on a foundation of physical sciences and mathematics. Our programs in geology, hydrology, meteorology, and earth and space science teaching are designed to effectively prepare students for productive careers in these professions or for continued study at the graduate level.

EAS is dedicated to providing an excellent learning environment for its students through the use and assessment of a variety of learning experiences including formal class work, laboratory and field work, learning through peer interaction, undergraduate research, and internships, while always being open to new and improved forms of learning.

Students considering EAS majors are encouraged to discuss their plans with EAS faculty during their freshman and sophomore years. Students should have made a solid beginning in the math, physics and chemistry coursework that form the foundation of their major prior to admission to the major.

Applicants should have completed the introductory 200 level course in their major (EAS 220 for geology majors, EAS 230 for hydrology majors, EAS 260 for meteorology majors and EAS 205 for earth and space science teaching majors). Application for admission to a major is typically done in the sophomore year.



## BACHELOR OF ARTS Earth Science

This is designed for students interested in a liberal arts Earth Science major, particularly for those students wishing to take an additional major or one or more minors. The student has an opportunity to focus in one or more areas of earth science through the choice of electives with adviser approval.

## BACHELOR OF SCIENCE Geology

The geology major focuses on the theoretical and practical (field) study of the dynamic processes that shape and control the development of both the interior and the surface of our planet, and which control the disposition of natural resources and our evolving landscape.

Particular emphasis is placed on practical, field aspects of geology. The major will prepare students for application to graduate school or for a variety of employment opportunities in entry-level positions in the minerals and petroleum industries, environmental geology consulting and government. Students considering this major are encouraged to meet with a faculty adviser at the earliest opportunity in order to plan their program of study.

## BACHELOR OF SCIENCE Hydrology

The hydrology major focuses on the quantitative study of surface and ground water and provides the background for a variety of entry-level job opportunities in industry and government and for graduate work in the field. Students are strongly urged to consider a minor in a related field such as geography, geographic information science, environmental studies or geology.



## BACHELOR OF SCIENCE Meteorology

The meteorology program focuses on the physical and dynamic processes that govern the evolution of the earth's atmospheric circulation and weather. Students are prepared for professional employment in meteorology in the public and private sectors and for continued study in graduate school. The meteorology major meets the guidelines for bachelor's degree programs set forth by the American Meteorological Society. It also fulfills the requirements for federal meteorologist positions specified by the National Weather Service.

Students should note that the program requires prerequisites in mathematics and physics and should plan to begin this supporting course work as soon as possible. Students should plan to take the program's orientation course (EAS 160) at the earliest opportunity.

## BACHELOR OF SCIENCE Science Teaching

### *Earth and Space Science Emphasis*

This program provides the background required by State of Minnesota science content and science education licensure standards for science teachers in grades 5-8 and earth and space science teachers in grades 9-12. All students interested in science teaching must complete both the 5-8 science teaching core and a 9-12 science content emphasis. Students considering this major are encouraged to contact a science education adviser in the EAS at the earliest opportunity.