

**NSF Program Announcement
Research Experiences for Undergraduates**

**Precision Digital Geologic Mapping on the Maine Coast
Using Sea-Kayaks, GPS, Total Stations, Aerial Imagery, GIS & Traditional Field Methods
May 24-July 19, 2008**

An 8-week research internship position in precision digital outcrop surface mapping, structural analysis, geologic interpretation, database construction and spatial analysis in GIS for junior-level undergraduates.

Program description

The summer NSF-REU Site program at the University of Southern Maine is an opportunity for nine undergraduate students to learn cutting-edge precision digital survey techniques as applied to geologic mapping in coastal Maine while working on a research project for presentation at a professional meeting. This program introduces students to the regional deformation associated with Late Paleozoic Norumbega strike-slip shearing in the Northern Appalachians, sea kayaking as a way to access island exposures, traditional field methods and digital survey instrumentation for precision outcrop surface mapping of geologic structures. Digital survey data and available aerial imagery will be compiled for database construction and spatial analysis in a geographic information system (GIS) to provide a basis for geologic interpretation, structural analysis and tectonic modeling. Results are reported in student abstracts and posters at the Northeast Section Geological Society of America (NEGSA) meeting (spring 2009).

Students receive a stipend of \$2400, travel reimbursement and support to attend the NEGSA meeting to present their work and 6 credits for their field experience (*GEY360/GEO360 - Field Mapping in the Island Environment: Data Collection to GIS*). When not camping in the field, dormitory accommodations are provided at the University of Southern Maine's Gorham Campus.

Eligibility

This program is designed for undergraduate students who have completed their junior year in a geoscience major, geography major with a geology minor, or other applicable degree program. Background coursework in geology and/or geography, prior field experience and established GIS computer skills are highly recommended. Training is provided in all areas.

Application Procedure

Submit: 1) the completed application form; 2) a copy of your college transcript, and; 3) a letter of recommendation from your faculty mentor to: Dr. Mark Swanson, Department of Geosciences, University of Southern Maine, Gorham, ME 04038. For more info email mwsanson@usm.maine.edu or call 207-780-5024.

Deadline

Completed applications for these positions must be in hand by Monday, March 31, 2008. Applicants will be notified via e-mail by Friday, April 4, 2008.

Application Form for NSF REU Research Internship Position
Precision Digital Geologic Mapping on the Maine Coast **May 24 – July 19, 2008**

Name: _____ SS#: _____
Address: _____
Telephone: _____ Email address: _____
Age and Date of Birth: _____ US citizen?: _____
Home Institution: _____
Major: _____ GPA: _____ Expected graduation date: _____

Please check any courses or skills you have relevant to this project:

<input type="checkbox"/> Physical Geography	<input type="checkbox"/> GIS
<input type="checkbox"/> Cartography	<input type="checkbox"/> GPS
<input type="checkbox"/> Physical Geology	<input type="checkbox"/> Excel or other spreadsheet program
<input type="checkbox"/> Structural Geology	<input type="checkbox"/> Brunton Compass
<input type="checkbox"/> Igneous & Metamorphic Petrology	<input type="checkbox"/> Swimming Kayaking <input type="checkbox"/>
<input type="checkbox"/> Surveying	<input type="checkbox"/> Camping Hiking <input type="checkbox"/>

Answer the following questions using a separate page.

1. What field and/or outdoor experiences have you had?
2. What unique qualifications or skills could you bring to the program?
3. Are special accommodations needed for your participation in the program?

Gender, Race and/or Ethnic Origin (optional)

Male: <input type="checkbox"/>	Female: <input type="checkbox"/>	Asian or Pacific Islander <input type="checkbox"/>
American Indian or Alaskan Native <input type="checkbox"/>		White, not of Hispanic Origin <input type="checkbox"/>
Hispanic <input type="checkbox"/>		Black, not of Hispanic Origin <input type="checkbox"/>

Faculty Mentor at Home Institution:

Email address of Faculty Mentor:

- Send: 1) this application form;
2) a copy of your transcript and
3) a letter of recommendation from your faculty mentor to:

Dr. Mark Swanson, Department of Geosciences,
University of Southern Maine, Gorham, ME 04038.

For additional info email mswanson@usm.maine.edu or call 207-780-5024.

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