

## Geosciences and the QEP

The Quality Enhancement Plan (QEP) at Florida Atlantic University is designed to improve undergraduate learning by expanding a culture of undergraduate research and inquiry across all disciplines at the University [ <http://www.fau.edu/qep/about.php> ] . Inquiry is recognized as a process and/or product which centers on asking questions or solving problems and which encompasses intellectual traits that transcend disciplines. This FAU initiative is identified as '*Distinction Through Discovery* 'and is centered around 4 goals:

- 1) Enhanced Curriculum
- 2) Expanded Student Opportunities
- 3) Faculty and Student Support and Recognition
- 4) Collaborative Infrastructure to Expand Culture

The Department of Geosciences in the Charles E. Schmidt College of Science has already positioned itself to add to FAU's QEP initiative in a variety of ways that cater to both honors students (high ability) and highly motivated students in the geosciences.

**Strong faculty involvement in *Directed Independent Study (DIS)* where students can utilize their classroom based-skill set in a lab or field environment.** Recent examples include a reef mapping project for the Palm Beach County Department of Environmental Management under the supervision of Dr. Charles Roberts, a hydrogeology study in the Pond Hawk nature area under the supervision of Drs. Tara Root and Tobin Hindle, and a study examining an invasive snail species in the Florida Everglades under the direction of Dr. Scott Markwith and doctoral student, Dean Monette.

**Establishment of an *Honors in the Major* program in geography.** The program requires independent field work under the supervision of a geography faculty member, laboratory analysis and communication of the results of the study both in written and oral format to the geography faculty. [http://www.geosciences.fau.edu/programs/undergrad\\_honors.html](http://www.geosciences.fau.edu/programs/undergrad_honors.html)

**Exposure of students to research inquiry and the scientific method in geosciences curriculum.** Two capstone courses in the department [GEA 4275 *Human-Environmental Interactions in South Florida* and GLY 4750C *Field Methods*], have been developed with specific learning outcomes that aid the understanding and development of tools to examine environmental and spatial problems utilizing the scientific method.

**Encouragement of students to present/publish their research findings.** Faculty regularly encourage students to publish or present their research findings at appropriate venues. Two students from Dr. Xavier Comas' geophysics lab recently presented their research findings at FAU's Undergraduate Research Symposium in the Spring 2012 term, and a geography *Honors in the Major* student under the supervision of James Gammack-Clark, is scheduled to present her findings at the Geosciences Colloquium Series in the Spring 2013 term.

**Creation of a Geosciences QEP Advisory Team to monitor and advance QEP opportunities and participation in the Department.** Drs. Scott Markwith (Chair), Tara Root, Tobin Hindle and Xavier Comas explore and promote QEP opportunities for our undergraduates in the areas of funding, presentation venues, and publication outlets for their research, as well as other initiatives designated by the Department Chair. This committee also works with the department-based honor societies, Gamma Theta Upsilon and Sigma Gamma Epsilon, to promote honors research.

The Department of Geosciences will expand its QEP initiatives in coming years in areas such as the following:

Create an *Honors in the Major* program in geology that mirrors the geography program.

Encourage QEP activities through on department-based honor societies, Gamma Theta Upsilon and Sigma Gamma Epsilon.

Create a student spotlight each semester showcasing QEP success within Geosciences.

Encourage participation of geosciences students in university QEP successes such as participating in the Undergraduate Research Symposium and submitting papers to FAU's undergraduate research journal, and other professional venues.

Shift department resources geared towards supporting graduate student research, particularly funds to attend conferences to include **high-quality** undergraduate research.

Encourage current department donors who support graduate research to include undergraduate research.

Encourage faculty to take advantage of upcoming curriculum grants programs at FAU.

Charge the *Geosciences QEP Advisory Team* to engage in curriculum mapping to inventory and expand geosciences coursework that exposes students to inquiry process and/or products.

Charge the *Geosciences QEP Advisory Team* to design an assessment process to measure QEP success in the Department. These measures could be initially based on growth in numbers of projects, professional presentations, publications, funding as well as a feedback system from geosciences professionals in the local community.