



SOCIETY OF EXPLORATION — GEOPHYSICISTS —

SCOPE

The University of Texas Institute for Geophysics, Jackson School of Geosciences, offers the 3-week Marine Geology and Geophysics Field Course. The course provides hands-on instruction and training for graduate and upper-level undergraduate students in high-resolution seismic reflection, CHIRP sub-bottom profiling, multibeam bathymetry, sidescan sonar, and sediment sampling and analysis.

CLASSROOM INSTRUCTION

Students first participate in three days of classroom and laboratory instruction designed to communicate geological context of the field area along with theoretical and technical background on each field method.

IN THE FIELD

The class then travels to the Gulf Coast for a week of at-sea field work at locations that provide an opportunity to investigate coastal and continental shelf processes. Teams of students rotate between UTIG's 26' R/V Scott Petty and a larger vessel (up to 150'). They assist with survey design, instrumentation set up, and learn about acquisition, quality control, and safe instrument deployment and recovery. Teams also process data and analyze samples in onshore field labs.

FINAL PRESENTATIONS

During the final week teams integrate, interpret, and visualize data in a final project using industry-standard software. The course concludes with team presentations on their interpretations to an audience of the class and industry sponsors.

IMPACT

Students report a greater understanding of marine geology and geophysics through the course's intensive, hands-on, team approach and high instructor/student ratio (8 students*, 3 faculty, and 3 technical staff teaching assistants). Post-class, students may incorporate course data in senior honors or graduate thesis and are encouraged to publish and present results at national meetings. This course (to our knowledge) remains the only one of its kind, satisfies field experience requirements for some degree programs, and provides an alternative to land-based field courses. Alumni note the course's applicability to energy, environmental, and geotechnical industries as well as coastal restoration/management fields.

The University of Texas Institute for Geophysics' Marine Geology and Geophysics Field Course

Sean Gullick, John Goff, Chris Lowery – Instructors
Marcy Davis, Dan Duncan, Steffen Saustrup – Teaching Assistants



STATS (2021)

Location: Port Aransas, Texas
Total number of students: 8*
Demographics: 50% Female, 50% Male; 50% graduate, 50% undergraduate; 7 U.S. Nationals, 1 Chinese,

TEAM PROJECTS

Team 1 (Carson Miller and Kazuma Sakamoto):
Humans, Storms and Climate Drive Geomorphic Changes

Team 2 (London Darce and Chris Liu):
Influences on Corpus Christi Bay's Sediment Budget in Human and Geologic Timescales Through Modern Industrialization and Buried Fluvial Channels

Team 3 (Solveig Schilling and Davis Hagemer):
Multi-Temporal Perspective on the Evolution of the Aransas Bay Area

Team 4 (Jake Burnstein and Marlowe Bueler):
Barrier Island Change Observed Through Millennial And Yearly Timescales

TESTIMONIALS

"I'm glad I took the MG&G field course because I was able to see how to collect, process, and interpret geophysical data within a ~2 week time frame."
-Carson Miller, graduate student, 2021

"I'm glad I took the MG&G field course because it was an incredible and unique experience in the field that was only enhanced by the fantastic instructors and faculty that worked to make it a safe and fun time for us, and the memories I made and knowledge I obtained are invaluable!"
-London Darce, undergraduate student, 2021

THANKS TO OUR 2021 SUPPORTERS!

- Chevron
- ConocoPhillips
- Hess
- Shell
- SEG Foundation
- TGS
- THSOA
- Quarles Van Ufford
- UTIG Field Endowment
- The Scott Petty Foundation
- Arthur E. Maxwell Memorial Endowment

*Due to University of Texas COVID-19 protocols, the 2021 course was streamlined to 8 students. We plan to return to a full class of 16 students in 2022.



Beach processes discussion



Cleaning the seismic air gun



Evening team debrief



Collecting data on the R/V Scott Petty



Processing multibeam data on shore



Processing seismic data on shore



Deploying the min-ponar sediment grab



Class of 2021



Deploying the chirp



Processing sediment grabs on shore



Assembling the multibeam sonar



Deploying the seismic streamer



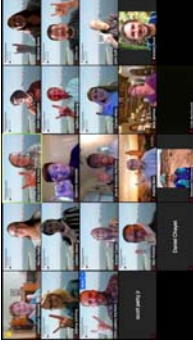
Standing watch on the M/V Miss Vivian



Marsh coring



Examining a core



Final presentations