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

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SCOPES: The University of Texas Institute for Geophysics, Jackson School of Geosciences, offers a 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 3 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 NOAA’s 82’ R/V Manta. They assist with survey design, instrumentation set up, and learn about acquisition, quality control, and safe instrument deployment. 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 (sixteen students, three faculty, and three 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.

TESTIMONIALS: “The Marine Geology and Geophysics Field Course is undoubtedly an extraordinary experience for all young geoscientists. The course provided us with superior and practical training in data acquisition, processing, and interpretation – all of which are crucial skills for students to possess. In addition, we worked in teams throughout the course to complete a research project and present meaningful results, a process that developed effective communication and teamwork skills that will be invaluable in the future. Lastly, the course allowed us to form professional and personal relationships with the instructors and fellow students, thus expanding the connectivity amongst the Jackson School of Geosciences community.” –Brandon Shuck, graduate student

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