Petroleum and Geosystems Engineering

Master of Science in Engineering
Doctor of Philosophy

For More Information

Campus address: Chemical and Petroleum Engineering Building (CPE) 2.502, phone (512) 471-3161, fax (512) 471-9605; campus mail code: C0300

Mailing address: The University of Texas at Austin, Graduate Program, Hildebrand Department of Petroleum and Geosystems Engineering, 200 East Dean Keeton Stop C0300, Austin TX 78712-1585.

E-mail: pgegradoffice@mail.utexas.edu
URL: http://www.pge.utexas.edu/

Objectives

This program is designed to educate engineers to develop technology and solve problems related to earth energy resources. Student research has traditionally focused on oil and gas, but sustainability topics are growing in importance in the curriculum and as research endeavors. Once students have chosen a degree option, they may choose to work closely with a faculty member conducting research in their area of interest. The program offers a doctoral degree based on a combination of coursework and research, and a master’s degree based on either a thesis or a report, or on coursework alone.

Hildebrand Department faculty are leaders in technology for the development of unconventional oil and gas, mentoring students to advance technology in drilling techniques, hydraulic fracturing, reservoir characterization and improved recovery, working to maximize the value of every well drilled for the abundant shale plays in the United States and around the world. Our researchers also work on ways to better utilize legacy oil and gas plays, devising new Enhanced Oil Recovery (EOR) methods to better extract the last drop of oil from discovered fields. We also recognize that, given the world currently depends on fossil fuels for 80% of its energy, and in the United States we depend on oil and gas for 70% of our energy, it is crucial that we innovate in ways to make those energy sources more sustainable. New programs in methane emissions monitoring and mitigation give students opportunities to be part of the solution for a lower carbon future. Research in carbon capture and storage (removing CO2 from the atmosphere and storing it in underground aquifers and depleted reservoirs) are innovations from petroleum engineering that will also address reducing CO2 impacts on climate. Program faculty are engaged in low carbon energy technologies such as geothermal energy, hydrogen, and rare earth metals supply, which are innovations that build on the foundation of petroleum engineering knowledge base and provide students with a broad and resilient experience that will lead to rewarding careers.

Facilities for Graduate Work

Excellent facilities for graduate research in petroleum and geosystems engineering are available in multiple engineering buildings where Hildebrand Department faculty, staff and students work. The Chemical and Petroleum Engineering Building is home to the department offices, classrooms, student office and study space, and state of the art research laboratories. Another segment of the program’s research staff occupy

Graduate Studies Committee

The following faculty members served on the Graduate Studies Committee (GSO) in the spring 2023 semester.

Matthew Thomas Balhoff  Quoc Phuc Nguyen
Hugh C Daigle  Ryosuke Okuno
Mojdeh Delshad  Jon E Olson
David DiCarlo  Masa Prodanovic
David N Espinoza  Michael Pyrcz
John Timothy Foster  Arvind P Ravikumar
Kenneth E Gray  Kamy Sepehrnoori
Zoya Heidari  Mukul M Sharma
Larry W Lake  Wen Song
Silviu Livescu  Carlos Torres-Verdin
Yingda Lu  Eric van Oort
Kishore Mohanty  Mary F Wheeler

Admission Requirements

All prospective degree candidates must have a background satisfactory for study of advanced petroleum and geosystems engineering as determined by the Graduate Studies Committee. For students without this background, such as those without degrees in engineering or in the petroleum-related fields, the Graduate Studies Committee will recommend a program of coursework designed to prepare the student for graduate study. Complete requirements for admission are available online.