DEPARTMENT OF OCEAN ENGINEERING

http://engineering.tamu.edu/ocean

Department Head: Sharath Girimaji

Graduate Advisor: David Allen

Ocean engineering is the application of basic engineering principles to the analysis, design, construction, and management of systems that operate in the ocean environment. The graduate ocean engineering program is broad-based and is designed to fit the needs of graduates from most engineering disciplines and naval architecture. Typical ocean engineering application areas include: beach protection and nourishment, coastal structures, coastal erosion, current and wave structure interaction, development of ocean energy resources, dynamics of offshore platforms and vessels, hydrodynamics, ocean turbulence modeling, instrumentation for coastal and offshore measurements, marine dredging and dredged material placement, marine risers, moored and towed systems, numerical and physical modeling of ocean processes and systems, ocean mining, offshore petroleum recovery, offshore structures, pipeline flow assurance, ports and harbors, remotely operated and autonomous underwater vehicles, renewable ocean energy systems, search and salvage, suspended and dissolved constituent transport, subsea pipelines and cables, submersible vehicles and sustainable and resilient ocean systems.

The graduate degree programs include coursework leading to the Master of Science (MS, thesis or non-thesis), Master of Engineering (ME), and Doctor of Philosophy (PhD) degrees in Ocean Engineering and Doctor of Engineering (DEng) in engineering. Students entering the graduate degree program have widely varied engineering backgrounds. Each graduate student is expected to become well versed in the appropriate support disciplines, particularly mathematics, ocean wave mechanics, and hydrodynamics. The student is expected to achieve reasonable competence in the principal areas of offshore structures, coastal and port engineering, coastal and estuarine processes, dredging and/or mining processes, underwater systems, or marine hydrodynamics. The graduate program is designed to provide students with knowledge of engineering in the ocean environment and to establish a base for ocean engineering research. Graduate courses are given in ocean engineering wave theory, marine hydrodynamics, oceanography, mathematics, coastal engineering, estuary hydrodynamics, sediment transport, dynamics of offshore structures, dynamics of ocean vehicles, marine dredging, port and harbor design, laboratory modeling, nonlinear hydrodynamics, computational fluid dynamics, ocean probability and statistics applications, and advanced offshore and coastal numerical methods.

The Department of Ocean Engineering is a two-campus department with campuses located in College Station and Galveston. The laboratory facilities in College Station are among the most comprehensive in the nation for testing offshore, coastal, and underwater systems. The College Station facilities are located in Offshore Technology Research Center (OTRC) and the Reta and Bill Haynes '46 Engineering Building (HEB). The facilities in Galveston include two wave channels and provide access to the Gulf of America through use of small boats, field equipment and instrumentation, and research vessels are available for offshore and coastal engineering research and education.

There is no foreign language requirement for PhD in ocean engineering or DEng in engineering. Students pursuing PhD in ocean engineering or DEng in engineering are required to pass the Ocean Engineering qualifying exam.

Faculty

Allen, David Henry, Professor
Ocean Engineering
PHD, Texas A&M University, 1980

Cordes, Roger D, Professor of the Practice
Ocean Engineering
BDS, University of Clemson, 1992
PHD, Northwestern University, 1996

Duran Vinent, Orencio, Associate Professor
Ocean Engineering
PHD, University of Stuttgart, 2007

Elshorbagy, Walid E A, Instructional Professor
Ocean Engineering
PHD, University of Arizona, 1995

Falzarano, Jeffrey M, Professor
Ocean Engineering
PHD, University of Michigan, Ann Arbor, 1990

Figlus, Jens, Associate Professor
Ocean Engineering
PHD, University of Delaware, 2010

Furth, Mirjam, Assistant Professor
Ocean Engineering
PHD, University of Southampton, Southampton, UK, 2014

Girimaji, Sharath S, Professor
Ocean Engineering
PHD, Cornell University, 1990

Kang, Heonyong, Assistant Professor
Ocean Engineering
PHD, Texas A&M University, 2014

Kim, Moohyun, Professor
Ocean Engineering
PHD, Massachusetts Institute of Technology, 1988

Koola, Paul M, Professor of the Practice
Ocean Engineering
PHD, Indian Institute of Technology, Madras, 1991

Panchang, Vijaykumar G, Professor
Ocean Engineering
PHD, University of Maine, 1985

Paredes Tobar, Lenin Marcelo, Associate Professor
Ocean Engineering
PHD, University of Sao Paulo, Sao Paulo, Brazil, 2012

Schuller, Michael J, Visiting Instructional Professor
Ocean Engineering
DEN, Texas A&M University, 1985

Winden, Bjorn, Research Assistant Professor
Ocean Engineering
PHD, University of Southampton, Southampton, UK, 2014

Witherden, Freddie David, Associate Professor
Ocean Engineering
PHD, Imperial College London, United Kingdom, 2015

Wood, Amanda L, Instructional Associate Professor
Ocean Engineering
PHD, University of Houston, 2010

Xu, Chang, Instructional Assistant Professor
Ocean Engineering
PHD, Texas A&M University, 2022
PHD, Harbin Institute of Technology, China, 2017

Masters

- Master of Engineering in Ocean Engineering (https://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/ocean/ocean-meng/)
- Master of Science in Ocean Engineering (https://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/ocean/ocean-ms/)

Doctoral

- Doctor of Philosophy in Ocean Engineering (https://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/ocean/ocean-phd/)