

DEPARTMENT OF OCEAN ENGINEERING

Ocean Engineering

Ocean engineering is the application of basic engineering principles to the analysis, design, construction, and management of systems that operate in the ocean environment or near shore. Typical ocean engineering application areas include: beach protection and nourishment, coastal structures and erosion, wave and current structure interaction, development of ocean energy resources, instrumentation for coastal and offshore measurements, marine dredging and dredged material placement, ocean mining, offshore petroleum recovery, offshore structures and vessels, marine hydrodynamics, marine risers, moored and towed systems, numerical and physical modeling, 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, seafloor pipeline and umbilical layouts, flow assurance, submersible vehicles, sustainable and resilient ocean systems, and underwater acoustics. Employment opportunities exist with private industry, defense contractors, consulting firms, and government agencies. Ocean engineering students are encouraged to pursue summer internships and study abroad program and may participate in the University cooperative education program. The undergraduate program in ocean engineering in the Department of Ocean Engineering at Texas A&M University is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

The mission of the Ocean Engineering Program is to conduct research, serve the public, and educate students in a broad program of instruction encompassing traditional and emerging areas of ocean engineering. Graduates are prepared for entering engineering practice, continuing onto graduate study, life-long learning and professional development. Students develop a sense of professionalism and an appreciation for the obligations of a professional engineer. The Program offers ocean engineering continuing education activities for the people and marine industry of the state, nation and international community. The Program serves the public and engineering profession in Texas and the nation through participation of faculty and students in public and professional activities. Applied and fundamental research is conducted that contributes to the better understanding of ocean engineering and supports student educational development.

The undergraduate ocean engineering program within the Department of Ocean Engineering at Texas A&M University will produce graduates who will:

- Work in ocean engineering and related engineering fields with private and government organizations;
- Advance to positions of increased responsibility and develop professionally through training, technical conferences, and continuing education activities; and adapt to emerging technologies and issues;
- Become professional engineers and members of ocean engineering related professional societies; and
- Pursue graduate studies in ocean engineering and related fields and receive post-baccalaureate degrees.

The Department of Ocean Engineering is a two-campus department with campuses located in College Station and Galveston, Texas. The laboratory facilities accessible to the Department of Ocean Engineering are among the most comprehensive in the nation for

testing offshore, underwater, and coastal systems. The College Station facilities are located in the Offshore Technology Research Center, Zachry Engineering Education Complex, and the Haynes Engineering Building. These facilities include a large deep water wave basin, a wave channel, fluid dynamics laboratory equipment, and data acquisition systems. The facilities in Galveston include naval architecture, fluid dynamics, and geotechnical experimental equipment, and two wave channels. The Galveston campus also provides access to the Gulf of America through the use of small boats and research vessels that are available for education and research. Additional information is available on the Department of Ocean Engineering website.

Before commencing course work in the major, students must be admitted to the major or have the approval of the department head.

Faculty

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

Cobb, David E, Associate Professor of the Practice
Ocean Engineering
MS, Texas A&M University, 1999

Cordes, Laurie Wittig, Instructional Assistant Professor
Ocean Engineering
MS, Texas A&M University, 1993

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

Parihar, Arun, Lecturer
Ocean Engineering
MEN, University of Houston, 2008

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

Windén, Björn, 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

Majors

- Bachelor of Science in Ocean Engineering (<https://catalog.tamu.edu/undergraduate/engineering/ocean/ocean-engineering-bs/>)