

Dual Degree  
Master's Program in

# MECHANICAL & SUBSEA ENGINEERING



[ME.EGR.UH.EDU](http://ME.EGR.UH.EDU) / [SUBSEA.EGR.UH.EDU](http://SUBSEA.EGR.UH.EDU)

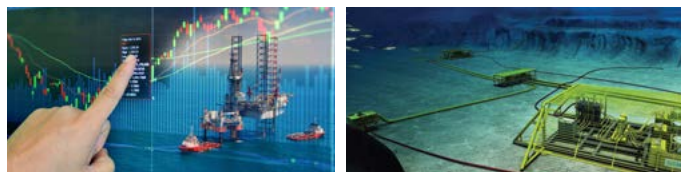
## ABOUT THE PROGRAM

Graduate students interested in the related fields of mechanical engineering and subsea engineering can combine their studies in a Dual Mechanical/Subsea Engineering Master's degree program. The dual degree program, the first of its kind in the world, allows students to obtain both a master's degree in Mechanical Engineering and a master's degree in subsea engineering, completing 45 credit hours of relevant graduate coursework. With the appropriate selection of graduate courses within the mechanical engineering department and subsea engineering program, students can be awarded both degrees, thereby significantly reducing the total number of credit hours needed if the two degrees were pursued separately.

## ADMISSION TO THE PROGRAM

New students should apply to the mechanical or subsea engineering graduate program for admission and indicate their interest to pursue the dual Mechanical/Subsea M.S. degree. To be unconditionally admitted to the Dual M.S. program, an applicant should have:

- ▶ A bachelor's degree in mechanical engineering or in a related field, preferably from an accredited engineering program.
- ▶ A grade point average of at least 3.00 out of 4.00 on the last 60 semester credit hours attempted exclusive of grades received for activities such as seminars, physical education, industrial internships, etc.
- ▶ An acceptable score on the Graduate Record Examination (GRE).



- ▶ A minimum score of 6.5 on the IELTS or 79 on the TOEFL iBT examination for students whose native language is not English.
- ▶ Three letters of recommendation attesting to the student's capacity to perform in the classroom and (for applicants to the thesis program) in a research capacity. A minimum of two letters should be from tenured or tenure-track faculty members who have observed the academic performance of the applicant, and one can come from an engineering industry supervisor.
- ▶ A statement of purpose that is consistent with the areas of instruction within the Department.

Acceptance to the program is based on a competitive requirements of academic background, GRE scores, recommendation letters and the statement of purpose. Domestic applicants who are not clearly competitive in any of these requirements may be admitted on a conditional basis at the discretion of the Director of Admissions. Nonimmigrant visa holders may not be admitted conditionally.

Students may begin their graduate studies in one program and apply for admission to the dual degree program at a later date. However, the decision by a student to pursue the dual degree should be made prior to the completion of 18 hours of coursework or a maximum of one year into one of the degree programs.

# GRADUATION REQUIREMENTS

In order to meet the graduation requirements for this dual-degree program, students must earn at least a 3.00/4.00 overall GPA, and a 3.00/4.00 GPA in a) all MECE courses, b) the course used to satisfy the mathematics requirement and c) all SUBS courses.

# ACADEMIC REQUIREMENTS

Within the 45 completed credit hours, students must fulfill the program requirements for each separate degree, and also pre-requisite courses, if any. Hence, the course selections should simultaneously comply with the course requirements of the mechanical engineering M.S. program and the core area course requirements of the subsea engineering M.S. program. Specific plan of study requirements for the Dual M.S. Program without thesis is outlined below:

## PROGRAM OF STUDY FOR THE DUAL M.S. PROGRAM WITHOUT THESIS

▶ Three hours of graduate-level mathematics satisfied by any of the following courses

- ▶ **SUBS 6305** Mathematics for Subsea Engineers
- ▶ **MECE 6384 OR 6385:** Methods of Applied Mathematics I, II
- ▶ **CHEE 6330 OR 6331:** Mathematical Methods in Chemical Engineering

▶ Minimum eighteen hours of approved coursework from MECE 6000-level or above, exclusive of the graduate seminar (MECE 6111) and the Graduate Project (MECE 6368).

▶ Minimum twenty one hours of coursework from the approved Subsea Engineering courses excluding pre-requisite courses, if any.

▶ Three hours of relevant coursework at the 6000-level or above can be from Petroleum Engineering or Bauer College of Business or within the College of Engineering with prior approval from the Program Director.

If a graduate course is dual-listed with an undergraduate 5000-level section, the student must enroll in the corresponding graduate section. Approval of any course that falls outside of the description given here must be requested by petition to the Director of Graduate Studies. Approval must be received prior to enrollment in the course. Since this is a non-thesis degree program, students should not enroll in research or thesis courses (6x98, 6399, or 7399).

**The students enrolled in the Dual Degree program will be continuously monitored and underperforming students will be carefully advised. The students should do well in both programs. The students will have to be qualified to get admission into individual programs (MECE and SUBS) and who qualify will be given admission to Dual Masters program.**

**In a rare case, if the students underperforms in one of the programs but does well in the other program, then he has to withdraw from the program where he is performing poor but can continue in the other program as if it is an individual program and has to meet that individual program requirements.**



## APPROVED COURSES

### Approved MECE Courses:

- ▶ **MECE 6333** Conduction and Radiation
- ▶ **MECE 6334** Convection Heat Transfer
- ▶ **MECE 6335** Heat Transfer with Phase-Change
- ▶ **MECE 6341** Viscous Flow Theory
- ▶ **MECE 6343** Boundary Layers
- ▶ **MECE 6353** Introduction to Computational Fluid Dynamics
- ▶ **MECE 6361** Mechanical Behavior of Materials
- ▶ **MECE 6379** Computer Methods for Mechanical Design
- ▶ **MECE 6397** Feedback Control Systems
- ▶ **MECE 6397** Special Topics OR Other courses approved by the Program Director

### Approved SUBS Courses:

- ▶ **SUBS 6305** Mathematics for Subsea Engineers
- ▶ **SUBS 6310** Flow Assurance
- ▶ **SUBS 6320** Riser Design
- ▶ **SUBS 6330** Pipeline Design
- ▶ **SUBS 6340** Subsea Process and Artificial Lift
- ▶ **SUBS 6350** Subsea Controls and System Engineering
- ▶ **SUBS 6351** Design of Subsea Blowout Preventers
- ▶ **SUBS 6360** Subsea Materials and Corrosion
- ▶ **SUBS 6370** Computational Methods & Design Experiments
- ▶ **SUBS 6380** Subsea Systems
- ▶ **SUBS 6397** Design for Oil and Gas
- ▶ **SUBS 6397** Advanced Flow Assurance
- ▶ **SUBS 6397** Selected Topics OR Other courses approved by the Program Director



**FOR MORE INFORMATION, PLEASE VISIT**

### **SUBSEA ENGINEERING**

[subsea.egr.uh.edu/academic-programs/dual-degree-master-program-mechanical-subsea-engineering](http://subsea.egr.uh.edu/academic-programs/dual-degree-master-program-mechanical-subsea-engineering)

### **MECHANICAL ENGINEERING**

[www.me.uh.edu/graduate/degree-programs/dual-masters-degree-mechanical-subsea-engineering](http://www.me.uh.edu/graduate/degree-programs/dual-masters-degree-mechanical-subsea-engineering)