

DUAL DEGREE MASTER'S PROGRAM IN

PETROLEUM & SUBSEA ENGINEERING



 PETRO.UH.EDU / SUBSEA.EGR.UH.EDU

ABOUT THE PROGRAM

Graduate students interested in the related fields of petroleum engineering and subsea engineering can combine their studies in a Dual Petroleum/Subsea Master's degree program. The dual degree program allows students to obtain both a master's degree in petroleum engineering and a master's degree in subsea engineering completing 45 credit hours of relevant graduate coursework. With the appropriate selection of graduate course within the petroleum 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 may apply to the petroleum or subsea engineering graduate program for admission and indicate their interest to pursue the dual petroleum/subsea MS 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 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. A minimum of two letters should be from 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.

Acceptance to the program is based on a competitive combination of academic background, GRE scores, recommendation letters and the statement of purpose.

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 in addition to earning at least a 3.00/4.00 overall GPA, must also earn 3.00/4.00 GPA in a) all PETR courses, and b) all SUBS courses.

ACADEMIC REQUIREMENTS

Within the 45 completed credit hours, students must fulfill the program requirements for each separate degree, and leveling and pre-requisite courses, if applicable. The course selections should simultaneously comply with the course requirements of the petroleum 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

- ▶ Minimum twenty one hours of approved coursework from PETR required courses and advanced elective courses, excluding leveling courses, if applicable.
- ▶ Minimum twenty one hours of coursework from the approved subsea engineering courses excluding pre-requisite courses, if any.
- ▶ Three hours of approved relevant coursework (optional elective) at the 6000-level or above can be from within the College of Engineering with prior approval from the Program Directors.

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 (PETR and SUBS) and those who qualify will be given admission to Dual Master's program.

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



APPROVED COURSES

Approved PETR Courses:

REQUIRED COURSES (4 COURSES)

- ▶ **PETR 6302** Reservoir Engineering II
- ▶ **PETR 6312** Well Logging: Evaluation of Petroleum Formations
- ▶ **PETR 6368** Well Drilling & Completion I
- ▶ **PETR 6372** Petroleum Production Operations

ELECTIVE COURSES (MINIMUM 3 COURSES*)

- ▶ **PETR 6308** Advanced Petroleum Production Operations
- ▶ **PETR 6310** Petroleum Production Economics
- ▶ **PETR 6304** Core Analysis: Evaluation of Petroleum Formations
- ▶ **PETR 6314** Pressure Transient Testing
- ▶ **PETR 6316** Well Drilling & Completion II: Well Logging
- ▶ **PETR 6320** Enhanced Oil Recovery
- ▶ **PETR 6325** Integrated Reservoir Characterization
- ▶ **PETR 6326** Applied Reservoir Simulation
- ▶ **PETR 6330** Fundamentals of Hydraulic Fracturing
- ▶ **PETR 6332** Reserves Estimation I: Deterministic
- ▶ **PETR 6336** Petroleum Energy Markets
- ▶ **PETR 6350** Natural Gas Engineering
- ▶ **PETR 6318** Horizontal Drilling
- ▶ **PETR 6376** Artificial Lift

Or any new PETR course approved by the Program Director

Approved SUBS Courses:

REQUIRED COURSES: (3 COURSES)

- ▶ **SUBS 6305** Mathematics for Subsea Engineers (or Equivalent Course*)
- ▶ **MECE 6334** Convection Heat Transfer (or Equivalent Course*)
- ▶ **SUBS 6310** Flow Assurance

ELECTIVE COURSES: (MINIMUM 4 COURSES*)

- ▶ **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 any new SUBS course approved by the Program Director

*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

PETROLEUM ENGINEERING

<http://petro.egr.uh.edu/graduate/degree-programs/dual-ms-degree-petroleum-and-subsea-engineering>