

**Course Number: 28959**

**Course Name: Analysis and Design of Offshore Structures**

Course Type: Theory
Prerequisite: Solid Mechanics
Level: Graduate
Group: Marine Engineering

Type & Max Unit: 3
Corequisite: Nothing
First Presentation: 2012
Last Edition: 2018

**Objectives:**

**Analysis and design of offshore structures (jacket) under environmental loads**

**Topics:**

- Review on offshore structures construction and installation
- Environmental loads estimation on offshore structures
- Vibration analysis of marine and offshore structures
- Review on reliability
- Design of tension, compression and flexural members
- Punching shear and stiffeners
- Fatigue analysis and design
- Seismic design of offshore structures
- Structural integrity management

**References:**

1. Hsu, Teng H. "Applied Offshore Structural Engineering", Gulf Publishing Company, Houston Texas, 1984.
2. Thomas H. Dawson, "Offshore structural engineering", Prentice-Hall, 1983
3. ESDEP: WG 15A : Structural Systems: Offshore