



Indian Institute of Technology

Course Details Report

Course No: OE6002

Course Name: Installation of Offshore Structures

Course Type:

Theory

Description:

The course syllabus is set in such a way that it covers all major aspects of offshore platform installation. The objective is to introduce the methods of installation of offshore structures and their impact on design.

Course Content:

Concepts of offshore installations : Fixed and floating structures; Spars and TLP's; Modular topsides and integrated topsides; deck levels and jacket configurations; Spar and TLP hull arrangements;
Loadout : Fabrication yard, grillage and foundation conditions; Fabrication sequence of Launch jacket, lift jackets, topsides and modules; Weighing and weight control; Skidded, Trailer and lifted Loadout methods;

Transportation : Cargo barges; Launch barges; layout of cargo arrangement; Sea fastening layout and design; Static and dynamic stability of barge; Motion analysis of barge – cargo system; Transportation analysis. Transportation fatigue analysis;

Installation Schemes : Lifting and launch schemes for jackets, upending and setting, on bottom stability; Float-over installations; Dynamics of barge – cargo system;

Installation aids : Launch cradle design; Buoyancy tank design; Lift points – padeyes and trunnions; spreader frame and spreader bar concepts; Mudmat concepts and design methods; Lifting topside modules and towers; Bumpers and guides; Grouting and leveling of jackets;

Text Books:

1. Handbook of Offshore Engineering by Subrata K. Chakrabarti, Elsevier, 2005
2. Construction of Marine and Offshore Structures by Ben C. Gerwick, CRC Press, 2007

Reference Books:

1. Offshore Geotechnical Engineering by E.T.R. Dean, Thomas Telford publications, 2010