

STREAM ELECTIVES: STREAM 1 – OFFSHORE AND SHIP STRUCTURES

OE6002: INSTALLATION OF OFFSHORE STRUCTURES

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

Prerequisite:

Consent of teacher