

## **OE1101: INTRODUCTION TO NAVAL ARCHITECTURE & OCEAN ENGINEERING**

### **Course Content:**

Physical Oceanography: Physical properties of seawater, Different types of ocean waves and their importance, tides, ocean currents, ocean circulation, ocean basin oscillations, Tsunamis, storm surge, Air-sea interaction. Marine Vehicles: Oceangoing, ship types, types of small crafts, high speed crafts, vehicles for Inland water transport, special ship types, e.g. warships, icebreakers, types of propulsion systems, marine safety regulation, underwater vehicles and submersibles. Introduction to Ship general arrangement, Ship terms and terminologies; Outfits – deck, accommodation, cargo, machinery, etc., Life saving appliances, Fire fighting appliances, Communication and navigation systems, Mooring and anchoring systems, Different piping systems, Ship board electrical systems. Offshore Structures for oil and gas: Fixed offshore platforms (jackets, gravity platforms, articulated towers); superstructure & foundation, floating platforms (semi-submersibles, jack-ups, TLPS, FPSOs, pipe laying barges); Mooring, station keeping, berthing systems for floating platforms; towing launching & installation of platforms, Nearshore structures.

### **Text Books:**

1. Practical: Visit to a ship - identification and familiarisation of various spaces and parts of ship, Make sketches of general arrangement of different ships types.

### **Reference Books:**

1. **Thomas Lamp:** Ship Design and Control Vol I & II, SNAME.

### **Prerequisite:**