

CE/BOS/CE 532/0412

K L UNIVERSITY

**DESIGN OF OFFSHORE STRUCTURES (11 – CE 532)**

**SYLLABUS**

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**WAVE THEORIES**

Wave generation process, small and finite amplitude wave theories.

**FORCES OF OFFSHORE STRUCTURES**

Wind forces, wave forces on vertical, inclined cylinders, structures - current forces and use of Morison equation.

**OFFSHORE SOIL AND STRUCTURE MODELLING**

Different types of offshore structures, foundation modeling, structural modeling.

**ANALYSIS OF OFFSHORE STRUCTURES**

Static method of analysis, foundation analysis and dynamics of offshore structures.

**DESIGN OF OFFSHORE STRUCTURES**

Design of platforms, helipads, Jacket tower and mooring cables and pipe lines.

**Text Books:**

1. Dawson.T.H., "Offshore Structural Engineering", Prentice Hall Inc Englewood Cliffs, N.J. 1983

**Reference Books:**

1. Chakrabarti, S.K. "Hydrodynamics of Offshore Structures", Computational Mechanics Publications, 1987.
2. Brebia, C.A and Walker, S., "Dynamic Analysis of Offshore Structures", New Butterworths, U.K. 1979.
3. API, Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms, American Petroleum Institute Publication, RP2A, Dalls, Tex,2000.
4. Reddy, D.V. and Arockiasamy, M., "Offshore Structures", Vol.1 and Vol.2, Krieger Publishing Company, Florida, 1991