OFFSHORE STRUCTURES UNDER SPECIAL ENVIRONMENTAL LOADS INCLUDING FIRE RESISTANCE

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TYPE OF COURSE : Rerun | Elective | PG
COURSE DURATION : 12 weeks (24 Jan' 22 - 15 Apr' 22)
EXAM DATE : 23 Apr 2022


INDUSTRIES APPLICABLE TO : All oil companies and Structural consultancy organizations, both in India and abroad

COURSE OUTLINE:
This course deals with novelty of offshore structures and their response behaviour under special loads. These loads include earthquake loads, ice loads, shock and impact loads, ringing and springing wave loads and loads caused by critical sea states. The course also deals with advanced structural analyses methods including unsymmetric bending and estimate of shear centre. It also deals with analysis of curved beams, crane hooks, chain links and rings and marine risers under Vortex induced motion. Fire in one of the major hazard in offshore industry.

ABOUT INSTRUCTOR:
Prof. Srinivasan Chandarsekaran is currently a Professor in the Dept. of Ocean Engineering, Indian Institute of Technology Madras, India. He has teaching, research and industrial experience of about 23 years during which he has supervised many sponsored research projects and offshore consultancy assignments both in India and abroad. His active areas of research include dynamic analysis and design of offshore platforms, Development of geometric forms of compliant offshore structures for ultra-deep water oil exploration and production, sub-sea engineering, Rehabilitation and retrofitting of offshore platforms, structural health monitoring of ocean structures, seismic analysis and design of structures and risk analyses and reliability studies of offshore and petroleum engineering plants.

COURSE PLAN:
Week 1: Novelty of offshore structures
Week 2: Environmental loads
Week 3: Special loads-I
Week 4: Special loads-II
Week 5: Advanced structural analysis-I
Week 6: Advanced structural analysis -II
Week 7: Advanced structural analysis - III
Week 8: Advanced structural analysis - IV
Week 9: Fire safety
Week 10: Blast resistance
Week 11: Material properties
Week 12: Fire resistant design