COURSE OVERVIEW
Of the Floating Production Hosts used worldwide the most widespread is the FPSO (tanker like). They are used in shallow and deepwater fields; in small to very large fields; in calm and harsh weather areas. The course is designed to help the participants to acquire the fundamental knowledge of FPSO Vessels (both New Builds & Tanker Conversions) and to see why they are so widely used by the offshore industry. The topic is covered fully from the FPSOs connection to the reservoir to the export requirements. Details of the FPSO equipment and functions are described. Upon completion of this course, participants should be able to understand the basics of FPSO and offshore oil & gas processing systems, equipment working principles and field requirements. Case Studies, videos and multimedia will be used to illustrate operating principles and lessons learned from past successful projects (with examples taken from around the world).

In addition to a fully illustrated note set, many industry videos will be provided to add to the understanding.

INDUSTRY OVERVIEW
EIC Fundamentals of FPSO Technology
Presenter : Dr John Preedy
Dates – 26th March 2018
EIC Kuala Lumpur

The course covers all the Subsea Engineering elements and is designed for a wide range of attendees from both technical and non-technical backgrounds. It will provide attendees, including suppliers with the full picture of the subsea elements, how they work and role they play together. It will assist those working in management, sales and finance to understand.

COURSE CONTENT
• Introduction to Offshore Floating Production
• New Build FPSO Vessels
• Tanker Conversion & Re-Deployment FPSO Vessels
• FPSO Design and Testing Methods
• Turret Design and Mooring Systems
• Introduction to Topsides Processing
• Topsides Equipment Layout and Operations
• Oil Storage and Export
• Field Examples

ONE DAY COURSE – FUNDAMENTALS OF FPSO TECHNOLOGY
09.00 Welcome
09.15 LECTURE L1 - INTRODUCTION TO FPSO / FLOATING PRODUCTION SYSTEMS
• Background and General Trends in Offshore Production
• Review of Fields developed with Floaters and Subsea Production Systems
• Geographic Requirements
• Typical Field Development Contracts
10.00 LECTURE L2 - FLOATING PRODUCTION HOST REQUIREMENTS
- Functional Requirements
- Monohull, Semi-Submersible, Deep Draught Semi-Sub, SPAR and TLP Options
- Layout and Safety
- Newbuild or Conversion
- New Developments (Sevan)

10.45 Break
11.00 LECTURE L2 - Continued

11.30 LECTURE L3 - FPSO MONOHULL DESIGN REQUIREMENTS & TESTING WITH MODELS
- Design Requirements.
- Hydrodynamic Studies
- Wave Tank Model Testing.
- Wind Tunnel Testing.
- Computational Fluid Dynamics (CFD)
- Response Amplitude Operators (RAO)
- FPSO Motions and Current Forces
- Operational Studies.

12.30 Lunch
13.15 LECTURE L4 - FPSO TURRET DESIGN & MOORING SYSTEMS
- FPSO Layout (External & Internal Turrets)
- Vessel Motions and Mooring Forces
- Disconnectable Systems
- Bearing Systems
- Mooring Lines and Riser Connections and Handling
- Fluid Transfer Systems - Swivels & Drag Chains
- Mooring Components
- Analysis / Design & Safety Factors
- Materials
- Anchors & Piles
- Installation

14.00 LECTURE L5 - INTRODUCTION TO FPSO TOPSIDES PROCESSING SYSTEMS
* Introduction to Offshore Production Systems
* Development concepts
* Reservoirs & Typical Well Fluids Compositions
* Function of process plant (Product Specifications, Environmental Constraints)
* Processing Facilities (Separation, Compression, Produced Water, Water Injection, Utilities)
* Effect of Motion,

15.00 Break
15.15 LECTURE L6 - SHUTTLE OR TRADING TANKERS AND EXPORT OPTIONS
- Types of Tankers (Shuttle Tankers with DP Thrusters, Standard Trading Tankers, Capacities)
• Loading/Offloading Rates
• Operational Schedules
• Offloading Transfer Systems (Direct or Remote)
• Metering Systems

16.00 LECTURE L7 - FPSO SAFETY AND RISK MANAGEMENT
• Offshore Safety Incidents
• Safety Case Regulations
  * Design and Safety Assessment for Floating Installations
• Certification/Verification/Classification
• Discussion with Examples
• Environmental Issues

16.30 Q & As + Close of Course