

# Design of Offshore Pipelines and Risers

*(This course meets the requirement for  
Continuing Professional Development (CPD)  
of the  
Royal Institution of Naval Architects (RINA))*

## **Cost**

The registration fee of the workshop will be £750+VAT (pound sterling) which includes course notes and lunches. You should make your own arrangements for accommodation.

## **Payment**

Payments can be made by cheque (made payable to ASRANet Ltd.), cash or bank transfer but no card payments. Please enquire for details.

## **Contact**

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(A Maritime Company for Courses,  
Conferences & Research)

**Glasgow, UK**

### About the Course

The course will aim to teach the first principles of design of pipelines and risers used for the offshore industry. Introduction to structural analysis methods for cracks, dents and corrosion defects give an understanding for the methods for stress analysis. In depth study on hydrodynamic loading on pipelines and the environmental loading on risers will provide a wide view to the dynamic loading analysis methods. Furthermore the effects of VIVs on risers and moorings provide an overview of the challenges in design of risers as well as aid to the methods for modelling and analysing risers and mooring lines. Structural design of risers dictate the life and fatigue performance of a riser, this area will be covered in depth and methodologies for achieving an optimum design using FEA and reliability will also be addressed. Finally, emphasis will be given to the overall design procedures including fatigue and fracture of the pipelines. Material selection and their properties will be covered briefly.

### Who Should Attend

Engineers and scientists involved in the design, operation and assessment of offshore structures and their associated equipment. Personnel from oil companies, consultancy organisations, classification societies and certifying authorities will also benefit from attending this Course

### PROGRAMME

#### Day 1

- 08.30 – 09.00 Delegate Registration
- 09.00 – 10.30 Lecture 1: Hydrodynamic around pipes
- 10.30 -10.45 *Break*
- 10.45 – 12.15 Lecture 2: Analysis of flexible pipelines
- 12.15 – 13.30 *Lunch*
- 13.30 – 15.00 Lecture 3: Vortex Vibration of Risers and Moorings
- 15.00 – 15.30 *Break*
- 15.30 – 17.00 Lecture 4: Overview of pipeline design premise

#### Day 2

- 09.00 – 10.30 Lecture 5: Introduction to Structural Reliability
- 10.30 – 10.45 *Break*
- 10.45 – 12.15 Lecture 6: Structural design of top tensioned riser systems

- 12.15 – 13.30 *Lunch*
- 13.30 – 15.00 Lecture 7: Finite element Analysis of in-situ behaviour
- 15.00 – 15.30 *Break*
- 15.30 – 17.00 Lecture 8: Structural Reliability of Pipelines
- #### Day 3
- 09.00 – 10.15 Lecture 9: Application of Structural Reliability to Pipelines
- 10.15 – 10.30 *Break*
- 10.30 – 12.00 Lecture 10: Design for buckling and strength
- 12.00 – 13.15 *Lunch*