MERCURY

Structural Steel Design for the Oil & Gas Industry

6 – 10 September 2027
London (UK)



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Ref: 15627_317739 **Date:** 6 – 10 September 2027 **Location:** London (UK) **Fees:** 5900 Euro

Introduction:

Structural steel design is a critical discipline within engineering, particularly when applied to the oil and gas industry. This specialized area focuses on designing, analyzing, and implementing steel structures essential for supporting various facilities and infrastructure within the sector. The fundamentals of structural steel design encompass the principles and practices required to create robust and efficient steel frameworks that withstand the demanding conditions in oil and gas environments.

This Structural Steel Design course provides a comprehensive overview of structural steel design tailored to the oil and gas industry. Through a practice-oriented approach, it explores key concepts such as the structural steel design manual and practical applications. Participants will delve into structural steel design problems and solutions, gaining insights into structural engineering in the oil and gas industry.

The Structural Steel Design course covers the use of steel in oil and gas structures, addressing the unique challenges and requirements of designing structures that support oil and gas operations by understanding what structural steel design entails and how it applies to oil and gas structures, professionals with the knowledge to implement effective structural steel design solutions. They will involved in the planning, designing, and managing steel structures within the oil and gas industry.

Targeted Groups:

- Structural Engineers in the Oil and Gas Sector.
- Project Managers for Oil and Gas Projects.
- Oil and Gas Industry Consultants.
- Construction Supervisors in Oil and Gas.
- Design and Drafting Professionals.
- Safety Inspectors for Oil and Gas Facilities.
- Technical Managers and Coordinators.
- Compliance and Quality Assurance Personnel.
- Fabricators and Erectors of Structural Steel.
- Maintenance Engineers for Oil and Gas Infrastructure.

Course Objectives:

At the end of this Structural Steel Design course, the participants will be able to:

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- Understand the fundamentals of structural steel design specific to the oil and gas industry.
- Apply the principles of structural steel design to develop oil and gas structures.
- Utilize structural steel design manuals and guides effectively.
- Solve common structural steel design problems encountered in oil and gas projects.
- Implement practice-oriented structural steel design solutions for oil and gas facilities.
- Gain insights into the design and use of steel within the oil and gas industry.
- Analyze oil and gas industry structures and their specific requirements.
- Explore the integration of steel design within oil and gas organizational structures and deal structures.

Targeted Competencies:

By the end of this Structural Steel Design training, the participant's competencies will:

- Mastery of Structural Steel Design Principles.
- Proficiency in Using Structural Steel Design Manuals.
- Application of Fundamentals in Oil and Gas Context.
- Ability to Address Structural Steel Design Problems and Solutions.
- Competence in Implementing Structural Steel Design Solutions.
- Understanding of Oil and Gas Industry Structures and Requirements.
- Skills in Designing Steel Structures for Oil and Gas Facilities.
- Knowledge of Steel Used in the Oil and Gas Industry.
- Expertise in Structural Engineering for Oil and Gas Operations.
- Familiarity with Oil and Gas Deal Structures and Organizational Structures.

Course Content:

Unit 1: Fundamentals of Structural Steel Design:

- Introduction to structural steel design principles.
- Overview of the structural steel design manual and its applications.
- Basic concepts of steel properties and behavior under load.
- Understanding the design criteria for oil and gas structures.
- Overview of common steel grades used in the oil and gas industry.
- Introduction to key structural steel design problems and solutions.

Unit 2: Structural Steel Design Guide for Oil and Gas:

- Detailed examination of the structural steel design guide.
- Application of design codes and standards specific to oil and gas.
- Case studies of oil and gas structural engineering projects.
- Methods for addressing unique challenges in oil and gas steel design.
- Analysis of design loads and their impact on steel structures.
- Techniques for ensuring safety and reliability in steel design.

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Unit 3: Structural Steel Design Solutions for Oil and Gas Structures:

- A practical approach to solving structural steel design problems.
- Design methodologies for complex oil and gas facilities.
- Integration of steel design with oil and gas industry structures.
- Development of custom solutions for specific project requirements.
- Review of successful structural steel design solutions in the industry.
- Evaluation of structural performance and durability.

Unit 4: Steel Used in the Oil and Gas Industry:

- Types and grades of steel commonly used in oil and gas.
- Analysis of material properties and their implications for design.
- Corrosion protection and maintenance of steel structures in harsh environments.
- Innovations in steel technology for enhanced performance.
- Comparison of steel used in different segments of the oil and gas industry.
- Impact of steel selection on overall project costs and sustainability.

Unit 5: Design of Oil and Gas Structures:

- Overview of structural engineering in oil and gas facilities.
- Design considerations for offshore platforms, refineries, and pipelines.
- Structural design requirements for supporting equipment and machinery.
- Integration of structural steel design with oil and gas organizational structures.
- Assessment of oil and gas deal structures and their influence on design.
- Future trends and advancements in oil and gas structural engineering.