



***COURSE TITLE***

# **BASIC RIGGING TECHNIQUES FOR ENGINEERS**



**BUILDING COMPETENCE, INSPIRING CONFIDENCE**

# Course Objectives

By the end of this course, participants will be able to:

- Understand basic rigging principles and terminology
- Identify rigging equipment and their safe working limits
- Interpret load weight, center of gravity, and lifting points
- Select appropriate rigging methods for common lifting tasks
- Apply basic safety rules and regulatory requirements
- Communicate effectively with riggers and crane operators

## Target Audience

- Mechanical, Maintenance, and Project Engineers



# Course Outline

## Introduction to Rigging

- What is rigging? Roles and responsibilities
- Engineer's role in lifting and rigging operations
- Common lifting accidents and lessons learned
- Basic rigging terminology

## Rigging Equipment & Hardware

- Slings, wire rope, chain, syn rope
- Shackles, hooks, eyebolts, turnbuckles
- Spreader bars and lifting beams (overview)
- Inspection criteria and rejection standards
- Safe Working Load (SWL) & Working Load Limit (WLL)

# Course Outline

## Load Characteristics & Weight Estimation

- Understanding load weight and load distribution
- Center of Gravity (CG) – concept and importance
- Effects of sling angles on load
- Basic load weight estimation methods
- Reading nameplates and drawings

## Basic Rigging Methods & Configurations

- Vertical, choker, and basket hitches
- Single vs multiple sling arrangements
- Lifting irregular and asymmetrical loads
- Common rigging mistakes by engineers
- Practical examples and case scenarios

# Course Outline

## Lifting Safety & Risk Control

- Rigging hazards and risk assessment
- Communication and hand signals (overview)
- Permit-to-work and lift categories (basic)
- Environmental factors: wind, ground conditions
- Pre-lift checklist and toolbox talks

## Introduction to Lift Planning

- What engineers should check in a lift plan
- Critical vs non-critical lifts
- Roles of lifting team members
- Documentation and approvals (overview)

# Instructor



**Mr. Maqbool Ahmed Soomro**

Maqbool Ahmed Soomro is a highly experienced maintenance and lifting professional with over 46 years of hands-on experience in fertilizer plants, gas compression facilities, and heavy industrial environments. He specializes in crane operations, heavy lifting, rigging engineering, and maintenance of mobile and stationary equipment.

He has extensive expertise in the inspection, operation, and maintenance of mobile and overhead cranes, earthmoving machinery, and heavy-duty vehicles, with proven capability in rigging and safely executing lifts up to 300 tons during plant erections, turnarounds, and shutdowns.

Mr. Ahmed has played a key role in the erection and heavy lifting of three major Urea plants—Pak-Saudi Fertilizer, Pak-China Fertilizer, and FFC-II—and has contributed to numerous large-scale shutdowns and turnaround projects.

An accomplished corporate trainer, he has delivered professional courses on Rigging Techniques, Crane Operations, Crane Safety, and Tool Safety to leading organizations in Pakistan and the Middle East, including FFC, OMV Pakistan, SNGPL, GPIC Bahrain, Al-Khor Fertilizer, and Unilever (Fatima Fertilizer).

He is an IMS Trained Auditor, certified in Mobile & Overhead Crane Inspection by Haward Technology Middle East (Dubai), and holds a Diploma in Zeigler Firefighting Systems. He has spent most of his career in senior engineering and maintenance roles with Fauji Fertilizer Company and Fatima Fertilizer Limited.

# Logistics

## Duration

**1 day**

## Location

**Client site or Lahore**

## Training Instructors

**Mr. Maqbool Ahmed Soomro**

Get in Touch

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