

EGAC Welding Courses	
Materials Selection	5 days
<p>Course Contents:</p> <ul style="list-style-type: none"> • Classification of materials (Metallic & Non-Metallic) • Structure of materials • Ferrous & Non-ferrous materials • Mechanical properties of materials • Tests for materials identification • Materials defects • Carbon steels • High strength steels • Alloy steels • Stainless steels • Non-metallic materials (Polymers, Ceramics Composites) • Case Studies (Codes & Applications) 	
Welding Technology	5 days
<p>Course Contents:</p> <ul style="list-style-type: none"> • Basics of Welding Technology • Welding Processes <ul style="list-style-type: none"> ⇒ Oxy-acetylene welding ⇒ Shield Metal Arc Welding (SMAW) ⇒ Gas Metal Arc welding (GMAW) ⇒ Gas Tungsten Arc Welding (GTAW) ⇒ Submerged Arc Welding ⇒ Resistance Welding • Welded joint defects • Welding Documentation (WPS) 	
Welding Metallurgy	5 days
<p>Course Contents:</p> <ul style="list-style-type: none"> • Principle of metallurgy • Structure of metals • Basic concept of solidification (Modes of solidification) • Mechanical properties of metals • Macro & microscopic examinations • Iron carbon diagram • Effect of alloying element • Fusion welding processes • Heat flow during welding 	

- Temperature changes in welding
(Rate of heating, Max. temp. & Rate of cooling)
- Preheat temperature & post heat temperature
- Heat treatment of welded joint
- Defects of welding
- Structure of welded joint
- Structure of Heat – affected zone
- Applications of welding metallography

Welding Technology & Inspection Diploma

10 days

Diploma Contents:

- Welding Technology & Metallurgy
- Destructive Tests of Welded joints
- Material selection
- Codes & Standards
- Repair Welding Theory & Application
- Welding Documents Preparation
- Non- destructive Testing of Welded joints (PT, MT, UT, RT & VT Level 2)
- Practical Application
 - Process piping
 - Storage Tanks
 - Pressure Vessels
 - Steel Structure