1. **Course title: TIG Welding**

**Instructor: Engr. Rizwan Nisar**

**Syllabus of the Course :**

* Basic Welding
* Introduction
* Definitions
* TIG Welding torch
* TIG torch parts assembling
* TIG Welding controls
* Tungsten Electrodes & its types
* Filler wires & its types
* TIG Welding Equipment
* TIG Welding bead
* Welding Codes
* Welding Symbols
* Welding Positions
* Welding passes
* Joint Preparation
* Welding defects
* Practical Work

**COURSE OBJECTIVES:**

* To train trainees to serve a broad range of different industry sectors through advance TIG welding.
* Understand the need for their craft in our current job market
* Develop a work ethic suitable for the industries challenging work environments
* Understand and develop a basic skill set for the TIG welding process on commonly TIG welded material (mild steel, aluminum, stainless steel)
* Understand basic welding codes
* Understand basic metallurgy of common metals and the effects of the welding arc
* Read and understand welding symbols
* Identify weld defects, how to avoid them before and after welding. Have appropriate procedures to correct defects post weld.
* Perform proper machine set up and parameter variables
* Perform basic fillet welds in the 1F,2F, and 3F positions using the GTAW process.

1. **Course title: MIG Welding**

**Instructor: Engr. Rizwan Nisar**

**Syllabus of the Course:**

* Introduction
* Definitions
* MIG Welding gun
* Welding gun parts assembling
* MIG Welding controls
* Filler wires & its types
* MIG Welding Equipment
* MIG Welding bead
* Welding Codes
* Welding Symbols
* Welding Positions
* Welding passes
* Joint Preparation
* Welding defects
* Practical Work

**COURSE OBJECTIVES:**

* To train trainees to serve a broad range of industry structures, materials, and parts. MIG Welding has a vast application in Sheet metal welding, Home improvement, automobile, and automotive industry, welding of pipelines.
* Understand and develop a basic skill set for the MIG Welding process on commonly MIG welded material (mild steel, aluminum, stainless steel)
* Understand basic welding codes.
* Understand basic metallurgy of common metals and the effects of the welding arc.
* Read and understand welding symbols
* Identify weld defects, how to avoid them before and after welding. Have appropriate procedures to correct defects post weld.
* Perform proper machine set up and parameter variables
* Perform basic fillet welds in the 1F, 2F, and 3F positions using the MIG process.