Introduction to Welding Processes:

Recommended course length 48 clock hours – 12 Hours
theory 36 hours lab

Each Lesson Approximately 16 Hours

1. Lesson 1 – Units 1, 2 Welding Safety
   Fundamentals of Welding – GMAW Welding
   a. Fire and Explosion Hazards
   b. Burns
   c. Fumes, Gases, and Confined Spaces
   d. Shock Hazards
   e. Eye protection
   f. Protective Clothing
   g. Proper handling of fuel cylinders
   h. Common Welding Processes
   i. Production welding processes
   j. Types of welding joints and welds
   k. GMAW (Mig) Welding equipment
   l. Fusion and Penetration
   m. Quiz 1 Safety (must have a score of 100% to continue)
   n. Quiz 2 Fundamentals of Welding /MIG
   o. Lab Mig Welding – Flat, Horizontal, Vertical, Overhead

2. Lesson 2 – Unit 4 Arc Welding Equipment -- SMAW Welding
   a. SMAW Welding Equipment
   b. AC and DC Welding Currents
   c. Welding Machine Ratings
   d. Types of Welding Machines
   e. Transformer, Generator, Rectifier, and, Inverter Machines
   f. Welding cables
   g. Electrodes for SMAW

Please call Workforce Development at 353-3456 for further information. Thank you.
h. Welding positions
i. Quiz 3 Arc Welding Equipment
j. Quiz 4 SMAW Welding
k. Lab SMAW welding flat, horizontal, Vertical, and overhead

3. Lesson 3 – Units 5 and 6 Welding Techniques and Avoiding Weld Faults -- GTAW Welding
   a. Proper welding procedures
   b. Parts of a weld
   c. Common weld Problems
   d. Weld Shape and Dimensional Problems
   e. Internal Weld Defects
   f. Inadequate Penetration
   g. Porosity
   h. Effects of heat
   i. Identifying metals
   j. Quiz 5 – Welding techniques and weld quality control
   k. Quiz 6- GTAW (TIG)
   l. Final Comprehensive Exam
   m. TIG Lab – All positions and aluminum welding

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