

**Course Information Sheet****Course Name: Introduction to Welding****Instructional Material: iCEV****Semester One:**

Week	Topic
1	Introduction to Welding: History, Career Opportunities, and The Welding Profession
2	Welding Safety: Shop Safety, Personal Protective Equipment (PPE), and Fire Prevention
3	Welding Symbols: Interpreting Welding and Brazing Symbols on Blueprints
4	Arc Welding: Introduction to Shielded Metal Arc Welding (SMAW)
5	SMAW Equipment: Power Sources, Electrodes, and Welding Leads
6	SMAW Techniques: Striking an Arc and Running a Bead
7	SMAW Joints: Welding Fillet Welds in the Flat Position (1F)
8	Weld Joints & Positions: Types of Joints and Welding Positions (1G-4G, 1F-4F)
9	SMAW Joints: Welding Lap and Butt Joints in the Flat Position (1G)
10	SMAW Joints: Vertical Welding (2F/2G) and Overhead Welding (4F/4G)
11	Gas Metal Arc Welding (GMAW): Introduction to MIG Welding
12	GMAW Equipment: Power Sources, Wire Feeders, and Shielding Gas
13	GMAW Techniques: Setting Parameters and Running a Bead
14	GMAW Joints: Welding Fillet and Groove Welds in the Flat Position
15	GMAW Joints: Vertical and Overhead Welding
16	Oxy-Fuel Welding & Cutting: Principles and Equipment
17	Oxy-Fuel Cutting: Performing Straight-Line and Bevel Cuts
18	First Semester Review & Exam

**Semester Two:**

Week	Topic
19	Welding on Different Metals: Carbon Steel
20	Welding on Different Metals: Carbon Steel
21	Welding on Different Metals: Carbon Steel
22	Welding on Different Metals: Carbon Steel
23	Welding on Different Metals: Carbon Steel
24	Welding on Different Metals: Carbon Steel
25	Welding on Different Metals: Carbon Steel
26	Welding on Different Metals: Carbon Steel
27	Weld Inspection: Non-Destructive Testing (NDT) Methods
28	Weld Defects: Identifying and Correcting Common Defects
29	Blueprint Reading: Advanced Interpretation of Welding Diagrams
30	Final Project: Planning and Design Phase
31	Final Project: Fabrication and Welding
32	Final Project: Finishing and Quality Control
33	Final Project: Finishing and Quality Control
34	Professionalism: Workplace Ethics and Communication
35	Final Practical Project & Presentation
36	Course Review & Final Exam