

**Course Information Sheet****Course Name: Welding II****Instructional Material: iCEV****First Semester:**

Week	Topic/Unit
1	Advanced Shop Safety & Review of Welding I Concepts
2	Review of GMAW & FCAW Techniques
3	Advanced Weld Joint Design & Preparation
4	Reading & Interpreting Complex Blueprints
5	Gas Tungsten Arc Welding (GTAW) Theory & Machine Setup
6	Hands-on GTAW: Beading on Mild Steel
7	Hands-on GTAW: Welding Lap & Butt Joints
8	GTAW on Stainless Steel & Aluminum
9	Flux-Cored Arc Welding (FCAW) Theory & Machine Setup
10	Hands-on FCAW: Innershield & Outershield
11	Hands-on FCAW: Vertical & Overhead Positions
12	Pipe Welding: Theory & Joint Preparation
13	Hands-on Pipe Welding: Rollouts
14	Hands-on Pipe Welding: 2G Position
15	Weld Quality Control & Non-Destructive Testing
16	Destructive Testing & Bend Tests
17	Advanced Metallurgy & Heat-Affected Zones
18	Final Review & Fall Semester Wrap-up

**Second Semester:**

Week	Topic/Unit
19	Welding in All Positions (1G, 2G, 3G, 4G)
20	Hands-on Practice: All-Position Welding
21	Introduction to the American Welding Society (AWS)
22	Preparing for the AWS Certification Exam
23	Welding Codes & Standards (e.g., AWS D1.1)
24	Advanced Fabrication Techniques & Jig Building
25	Hands-on Project: Designing & Fabricating a Complex Structure
26	Hands-on Project: Continued Fabrication
27	Welding in Specialized Applications (e.g., Automotive, Marine)
28	Introduction to Robotics & Automated Welding
29	Cost Estimation & Project Bidding
30	Supervised Agricultural Experience (SAE) in Advanced Welding
31	Welding Business Management & Entrepreneurship
32	Career Opportunities & Job Search in Advanced Welding
33	Final Portfolio Development & Resume Building
34	Final Project: Advanced Fabrication
35	Final Project Completion & Presentation
36	Final Review & Spring Semester Wrap-up