Pipefitting/Pipe Welding Technology AAS

Program Learning Outcomes (PLOs)	Measurable Student Learning Outcomes (MSLOs)- PLO Alignment							
	WLD115	WLD125	WLD128	WLD143	WLD243	WLD246	WLD247	WLD255
1. (Synthesis Level) Show motivation, dependability, reliability, willingness to learn, willingness to work as a team member and the ability to work safely. (CSLO 3)	✓	✓		✓	✓	✓	✓	✓
2. (Synthesis Level) Demonstrate skills related to applied science, basic computers, applied mathematics/measurements, reading for information, business writing, listening and following directions, locating/using information and speaking/presentation skills. (CSLO 2,3)	✓		✓	✓	✓	✓	✓	
3. (Evaluation Level) Demonstrate, explain and critique teamwork, adaptability/flexibility, business fundamentals, marketing and customer focus, planning and organizing, problem-solving, decision-making, and applied technology. (CSLO 2,3)			✓		✓	✓		
4. (Evaluation Level) Evaluate and demonstrate welding competencies in manufacturing process development and design, production, maintenance installation and repair, quality assurance/continuous improvement, and health and safety.(CSLO 2,3)	✓	✓			✓	✓	✓	
5. (Synthesis Level) Apply welding fundamentals and processes, and the correct and safe use of welding equipment and tools.(CSLO 2,3)	✓	✓	✓	✓	✓	✓	✓	✓
6. (Comprehension Level) Identify the physical characteristics and mechanical properties of metals. (CSLO 4)		✓	✓	✓	✓	✓	✓	✓
7. (Synthesis Level) Demonstrate competencies in pipefitting practices, safety and health, drawing and symbols, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW), Thermal Cutting, Oxygen Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Carbon Arc Cutting (CAC), and Inspection. (CSLO 2,4)	✓	✓	✓	✓	✓	✓	✓	✓
8. (Synthesis Level) Create completed projects by demonstrating proficient pipefitting techniques while performing SMAW, GMAW, FCAW, GTAW, thermal cutting, OFC, PAC, CAC, and inspection.(CSLO 2)				✓	✓	✓	✓	✓
9. (Evaluation Level) Demonstrate, evaluate and explain weld imperfections and their causes. Explain the importance of quality workmanship and how imperfections or incorrect welding techniques may impact society. Demonstrate consistent, high quality workmanship to ensure public safety and to protect the environment. (CSLO 1)		✓		✓	✓	✓	✓	✓

Fundamentals of Pipe Welding Certificate

Program Learning Outcomes (PLOs)	Measurable Student Learning Outcomes (MSLOs)- PLO Alignment	
	WLD115	WLD125
1. (Synthesis Level) Incorporate skills into projects related to applied science, basic computers, applied mathematics and measurements, reading for information, business writing, listening and following directions, locating and using information, and public speaking and presenting skills. (CSLO 2,3)	✓	✓
2. (Application Level) Demonstrate proficiency using the most common welding and cutting processes. (CSLO 2,3)	✓	✓
3. (Application Level) Demonstrate the safe use and storage of welding equipment and tools. (CSLO 2,3)	✓	✓
4. (Synthesis Level) Perform competencies in safety and health, drawing and symbols, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Thermal Cutting, Oxygen Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Carbon Arc Cutting (CAC), and Inspection. (CSLO 2,4)		✓
5. (Synthesis Level) Create completed projects by demonstrating proficient techniques in Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Thermal Cutting, Oxygen Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Carbon Arc Cutting (CAC), and Inspection. (CSLO 2)		
6. (Evaluation Level) Demonstrate, evaluate, and explain weld imperfections and their causes. Explain the importance of quality workmanship and how imperfections or incorrect welding techniques may impact society. Demonstrate consistent, high-quality workmanship to ensure public safety and to protect the environment. (CSLO 1)		✓
7. (Comprehension Level) A focus on the understanding and interpretation of pipe fabrication, construction projects, and mechanical contract drawings. (CSLO 2,3,4)		

Pipefitting/Pipe Welding Certificate

Program Learning Outcomes (PLOs)	Measurable Student Learning Outcomes (MSLOs)- PLO Alignment		
	WLD128	WLD143	WLD243
1. (Synthesis Level) Model motivation, dependability, reliability, willingness to learn, willingness to work as a team member, and the ability to work safely. (CSLO 3)		✓	✓
2. (Synthesis Level) Incorporate skills into projects related to applied science, basic computers, applied mathematics/measurements, reading for information, business writing, listening to and following directions, locating and using information, and speaking and presentation skills.	✓	✓	✓
3. (Evaluation Level) Demonstrate, explain, and critique teamwork, adaptability and flexibility, business fundamentals, marketing and customer focus, planning and organizing, problem solving, decision-making, and applied technology.	✓		✓
4. (Synthesis Level) Combine welding fundamentals and processes to the correct and safe use of pipe welding and fitting equipment and tools. (CSLO 2,3)	✓	✓	✓
5. (Synthesis Level) Perform competencies in safety and health, drawing and symbols, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW), Thermal Cutting, Oxygen Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Carbon Arc Cutting (CAC), and Inspection. (CSLO 2,4)	✓	✓	✓
6. (Synthesis Level) Create completed projects by demonstrating proficient techniques in SMAW, GMAW, GTAW, thermal cutting, OFC, PAC, CAC, and inspection. (CSLO 2)		✓	✓
7. (Evaluation Level) Demonstrate, evaluate, and explain weld imperfections and their causes.		✓	✓
8. (Comprehension Level) Explain the importance of quality workmanship and how imperfections or incorrect welding techniques may impact society.			
9. (Synthesis Level) Demonstrate consistent, high quality workmanship to ensure public safety and to protect the environment. (CSLO 1)			