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|   | **Course:** | **WEL 224**  |
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|   | **Title:** | **Adv Gas Tungsten Arc Welding**  |
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|   | **Long Title:** | **Advanced Gas Tungsten Arc Welding**  |
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|   | **Course Description:** | **Covers welding in all positions on carbon steel, stainless steel and aluminum plate and carbon steel pipe with the GTAW process. Student should be familiar with basic metallurgy pertaining to the weldability of metals, structural joints, and safety in the welding industry.** |
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|   | **Min Credit:** | **4** |

 STANDARD COMPETENCIES:

1. Follow shop safety practices.
2. Maintain a clean and safe work area.
3. Follow guidelines prescribed in course progress chart.
4. Perform safety inspections on GTAW equipment.
5. Prepare carbon steel, stainless steel and aluminum plate.
6. Prepare carbon steel pipe.
7. Identification of proper filler rod and diameter.
8. Set up arc welding equipment.
9. Select proper current, polarity and amperage.
10. Perform welds on tee, lap, corner and butt-joints in the flat, horizontal, vertical and overhead positions on carbon steel.
11. Perform welds on tee, lap, corner and butt-joints in the flat, horizontal, vertical and overhead positions on stainless steel.
12. Perform welds on tee, lap, corner and butt-joints in the flat horizontal, vertical and overhead positions on aluminum.
13. Perform welds on carbon steel pipe in the 1G, 2G, 5G up, 5G dn and 6G positions.
14. Identify surface discontinuities and suggest corrective measures.
15. Perform minor troubleshooting on cutting equipment.
16. Interpret weld symbols.
17. Do assigned course book work.

 TOPICAL OUTLINE:

1. Follow Safety Manuals / Safety Regulations / Safety Requirements
2. Weld Tee-joints, Lap-joints and Butt-joints All Positions. (steel)
3. Weld Tee-joints, Lap-joints and Butt-joints All Positions. (stainless steel)
4. Weld Tee-joints, Lap-joints and Butt-joints All Positions. (aluminum)
5. Single vee-groove All Positions.
6. Pipe Welding