



Course Information

Course Title	Advanced Gas Tungsten Arc Welding
Course Prefix, Num. and Title	WLDG 2451
Division	Vocational Science: Welding Technology
Department	Welding Technology
Course Type	WECM Course
Course Catalog Description	Advanced topics in GTAW welding, including welding in various positions and directions.
Pre-Requisites	WLDG 1417
Co-Requisites	none

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours:	4:2:6
Lab/Other Hours	
Equated Pay Hours	5
Lab/Other Hours Breakdown: Lab Hours	6
Lab/Other Hours Breakdown: Clinical Hours	Enter Clinical Hours Here.
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Prepared by:		
Department Head:		
Division Chair:		
Dean/VPI:		
Approved by CIR:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Learn various shielding gases, methods of metal transfer and components of a GTAW station. Set up a GTAW station and make necessary adjustments such as current, voltage and gas flow necessary to weld on various sizes of pipe. Make weld on pipe nipples in 2G, 5G and 6G positions using the uphill, downhill, push and pull methods of welding on mild steel, stainless steel and aluminum.

Course Learning Outcomes:

- Demonstrate the importance in safely planning each procedure before starting work.
- Explain the importance of a Material Safety Data Sheet (MSDS).
- Exhibit expertise in various welding positions.
- Describe the effects of welding parameters in GTAW.
- Weld various joint designs.
- Diagnose welding problems.
- Perform visual inspections.

Methods of Assessment:

- Explain shop safety rules, safety rules for tools and equipment, and personal safety rules.
- Students will be given the necessary information to understand the need for improved equipment and process to meet industry needs.
- Perform pipe welds in 1G, 2G, 5G, and 6G positions.
- Properly prepare, set-up and cut using a plasma cutter

Required text(s), optional text(s) and/or materials to be supplied by the student:

Welding Fundamentals

Suggested Course Maximum:

20

List any specific or physical requirements beyond a typical classroom required to teach the course.

none

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

AWS Assignments 40%
Laboratory Assignments 40%
Final Exam 20%

Total 100%

Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist