



Purpose: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

Course Title - Intro to Gas Tungsten Arc (TIG) Welding

Course Prefix and Number - Welding 1434

Department - Welding Technology

Division - Continuing

Course Type: (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core)
- Academic WCJC Core Course
- WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

Semester Credit Hours # : Lecture hours# : Lab/other hours # 4:3:4

Equated Pay hours for course - 5


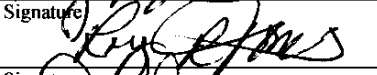


Course Catalog Description - An introduction to the principles of gas tungsten arc welding (GTAW), setup/use GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

Describe various joint designs; describe safety rules and equipment; and describe the effects of welding parameters in GTAW; and will weld various structural materials.

List Lab/ Other Hours
Lab Hours 4
Clinical Hours
Practicum Hours
Other (list)

Prerequisites/Co requisites - None

Approvals – the contents of this document have been reviewed and are found to be accurate.

Prepared by Roy R. Jones	Signature 	Date 7/14/10
Department Head Roy R. Jones	Signature 	Date 7/14/10
Division Chair David Clayton	Signature 	Date 7/13/10
Vice President of Instruction or Dean of Vocational Instruction Leigh Ann Collins	Signature 	Date 7/14/11



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

Learning Activities: The student learning activities are designed to lead the student to the successful acquisition of the student learning outcomes. The student will:

1. Attend demonstrations of how to safely plan laboratory activities before starting work.
2. Equipment setup demonstrations, material preparation, and procedures for gas tungsten arc welding.
3. Practice flat position beading, following instructor guideline for striking the arc.
4. Select proper current settings to perform T - fillet welds.
5. Make gas shielded welds flat and vertical positions.
6. Select the proper current setting to perform horizontal and overhead welds.
7. Select proper electrodes to make 1G position welds on carbon steel plate.
8. Make groove welds in 2G position and 3G position and understand the effects of discontinuities on the welded product.
9. Perform 4G position welds on carbon plate.
10. Practice 4G position welding in accordance with industry standards to certify.

II. Course Learning Outcomes

Course Learning Outcome	Method of Assessment
<p>Student will be able to correctly make a groove weld using the TIG process.</p> <p>Upon successful completion of WLDG 1434, the student should be able to :</p> <ol style="list-style-type: none"> 1. Explain shop safety rules, safety rules for tools and equipment, and personal safety rules. 2. Explain the importance of a Material Safety Data Sheet (MSDS). 3. Describe various joint designs, *2,4,5 4. Describe the effect of welding parameters in GTAW. *1,2,4,5 5. Weld various structural materials. *7 	<p>A visual test and bend test.</p>

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

“Gas Tungsten Arc Welding Handbook” by Minnick and “Welding – Trainee Guide Level 1” by Nccer`

IV. Suggested Course Maximum - 4-3-4 Weekly Lecture Week 1-First day handout and orientation, 2. Handout, Safety Film, Safety in the Workplace, 3. Safety Exam, 4,5. Module 29209-03, GTAW-Plate, 6. Module 29209-03 and Exam, 7,8. Welding Defects, 9. Exam, Welding Defects, 10. Hand out/Discussion, MSDS, 11. MSDS exam, 12-14. Module 29208-03, GTAW-Equipment and Filler Metal A. Equipment, B. Shielding Gases, C. Filler Metals, D. Welding Equipment, 15. Final Review, 16. Final Exam, Module 29208-03. Laboratory: 1. Orientation, base metal preparation, striking the arc, beading., 2. Pad in all positions, 3. Pad in all positions, 4. 1G (flat) V-butt joint, 5. 1G (flat) V-butt joint, 6. 2G (horizontal) V-butt joint, 7. 2G (horizontal) V-butt joint, 8. 3G (vertical) V-butt joint, 9. 3G (vertical) V-butt joint, 10. 3G (vertical) V-butt joint, 11. 4G (overhead) V-butt joint, 12. 4G (overhead)

V-butt joint, 13. 4G (overhead) V-butt joint, 14. 4G (overhead) V-butt joint, 15. Complete all welds, 16. Final Exam. 160 maximum hours. Maximum per class is 15 students.

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

None

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course Student learning outcomes will be measured through the critique of weekly laboratory assignments and through periodic examinations. The final course grade will be based on the following:

Department Assignments	30%
Laboratory Assignments	50%
Final Exam	20%
	100%

100 - 90 = A

89 - 80 = B

79 - 70 = C

69 - 60 = D

Below 60 = F

I = Incomplete (to be used in case of emergencies or illness)

W = Student withdrawal (either by student or by instructor)

VII. Curriculum Checklist

- **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

- **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:

- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

- **WECM Courses**
If needed, revise the Program SCANS Matrix & Competencies Checklist.