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 - Advanced Gas Tungsten Arc Welding (GTAW)
Course Prefix and Number - WLDG 2451
Department - Welding Technology
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 - Advanced topics in GTAW welding, including welding in various positions and directions.

Prerequisites/Co requisites – WLDG1417, WLDG1434, WLDG1435, and WLDG1457 or Division Chair Approval

Prepared by Aaron Dittmar Date 7/21/2014
Reviewed by department head Aaron Dittmar Date 7/21/2014
Accuracy verified by Division Chair Tim Guin Date 7/21/2014
Approved by Dean of Vocational Instruction or Vice President of Instruction Amy LaPan Date 8/8/2014
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):

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.

II. Course Learning Outcomes

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<tr>
<th>Course Learning Outcome</th>
<th>Method of Assessment</th>
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<tr>
<td>1. Demonstrate the importance in safely planning each procedure before starting work.</td>
<td>1. Explain shop safety rules, safety rules for tools and equipment, and personal safety rules.</td>
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<td>2. Explain the importance of a Material Safety Data Sheet (MSDS).</td>
<td>2. Students will be given the necessary information to understand the need for improved equipment and process to meet industry needs.</td>
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<td>4. Describe the effects of welding parameters in GTAW.</td>
<td>4. Properly prepare, set-up and cut using a plasma cutter</td>
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<td>5. Weld various joint designs.</td>
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<td>6. Diagnose welding problems.</td>
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<td>7. Perform visual inspections.</td>
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<td>8. Demonstrate how to write a report using a word processor, saving it to a disk, and printing a final copy.</td>
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III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

- Modern Welding Technology

IV. Suggested Course Maximum - 20

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.

Department Assignments 30%
Laboratory Assignments 50%
Final Exam 20%
Total 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)

Department assignments may be composed of a combination of homework assignments, a safety review assignment and test, in class short quizzes on lecture/reading material, and/or short papers and reports.

Laboratory assignments may be composed of a series of assessments on pipe welds.

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.