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 Metal Arc Welding (GMAW)
Course Prefix and Number - WLDG 2447

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

Equate Pay hours for course - 5

Course Catalog Description - Advanced topics in Gas Metal Arc Welding (GMAW). Includes welding in various positions and directions.

Prerequisites/Co-requisites – WLDG 1417, WLDG 1434, WLDG 1435, WLDG 1457

Prepared by Aaron Dittmar
Reviewed by Department Head Aaron Dittmar
 Accuracy verified by Division Chair Tim Guin
Approved by Dean or Vice President of Instruction Amy LaPan

Date 7/21/2014
Date 07/21/2014
Date 7/21/14
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):

Utilize architectural terms, symbols, residential construction materials and processes to produce a set of residential construction drawings including site plan, floor plan, elevations, wall sections, schedules, details and foundation plans using reference materials.

II. Course Learning Outcomes

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Methods of Assessment</th>
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<tr>
<td>Upon successful completion of this course, students will:</td>
<td>1. Attend demonstrations of how to safely plan laboratory activities before starting work.</td>
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<td>-Describe safety rules and equipment use</td>
<td>2. Practice 1F (flat) T-joint fillet welds using proper gas and filler material selections.</td>
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<td>-Explain importance of a Material Safety Data Sheet (MSDS)</td>
<td>3. Adjust machine correctly and proceed with 2F (horizontal) T-joint fillet procedures.</td>
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<td>-Describe welding positions with various joint designs</td>
<td>4. Adjust machine correctly and proceed 3F (vertical) T-joint fillet procedures.</td>
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<tr>
<td>-Calculate total cost of welding multiple pass t-joints using the GMAW process</td>
<td>5. Adjust machine correctly and proceed 4F (overhead) T-joint fillet procedures.</td>
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<td>-Demonstrate proficiency in various welding positions</td>
<td>6. Perform 1G flat and 2G horizontal V-butt.</td>
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<tr>
<td>-Describe the effects of welding parameters in GMAW</td>
<td>7. Perform 3G vertical V-butt and 4G overhead V-butt</td>
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<tr>
<td>-Diagnose welding problems and perform visual inspection</td>
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</tbody>
</table>

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%          | 100-90= A                       |
| Laboratory Assignments....50%         | 89-80=B                         |
| Final Exam................................| 79-70=C                         |
| Total...................................100% | 69-60=D                         |
|                                        | 59-0=F                         |
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 welds using the GMAW process.

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.