I. Course Number: AERM 1253

II. Course Title: Aircraft Welding

III. Instructional Time:

- Semester ------ 2 hours
- Lecture -------- 14 hours
- Lab --------- 42 hours
- Final Test ----- 1 hour
- Total Clock -- 57 hours

IV. Course Description:

Topics address repair procedures for steel, magnesium, brass, and aluminum materials used in aircraft assembly and selection and application of appropriate methods of welding, brazing, and soldering steel, magnesium, brass, and aluminum.

V. Course Learning Outcomes:

- Weld magnesium and titanium; solder stainless steel; fabricate tubular structures; solder, braze, gas-weld, and arc-weld steel; and weld aluminum and stainless steel.

VI. Program Objectives:

- Level 2 A. Solder, braze, gas-weld, and arc-weld steel.
- Level 1 B. Weld magnesium and titanium.
- Level 1 C. Solder stainless steel.
- Level 1 D. Fabricate tubular structures.
- Level 1 E. Weld aluminum and stainless steel.
VII. Practical Projects:

A. Simulate soldering, brazing, gas-welding, and arc-welding of steel.

B. Research welding of magnesium and titanium.

C. Research soldering of stainless steel.

D. Research fabrication of tubular structures.

E. Research welding of aluminum and stainless steel.

VIII. Teaching Methods:

To include lecture, discussion, audio/visual aids, computer based training, hand outs, and reference materials.

IX. Evaluation:

Evaluation methods for this course are as follows:

A. Quizzes: Informal quizzes may be administered periodically to measure student progress and to identify significant learning problems. The quiz type (multiple choice, oral, essay, etc.) and the frequency of administration shall be at the discretion of the instructor. Quiz grades are not used in computing course grades.

B. Practical Projects and Mid-term Tests: At the completion of instruction of an objective, the students performance will be evaluated by a knowledge test and/or a practical project. Mid-term tests grades are averaged with Practical Projects grades.

C. Final Examination: A final exam will be administered at the conclusion of the course and shall be comprehensive of the entire course.

D. Grading: A percentage grading system shall be used and the student's final grade shall be computed as follows:

<table>
<thead>
<tr>
<th>Practical Projects and Mid-term Test</th>
<th>65%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Examination</td>
<td>35%</td>
</tr>
</tbody>
</table>
COASTAL BEND COLLEGE
Airframe & Power Technology Program
Airframe Course Syllabus

E. Final percentage grades shall be converted to letter grades as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>C</td>
</tr>
<tr>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>59-0</td>
<td>F</td>
</tr>
</tbody>
</table>

X. Tools and Equipment:

Special tools and equipment required for this unit are to be furnished by Coastal Bend College. All hand tools, however, are to be furnished by the individual student and shall be immediately available to the student at the beginning of this course of instruction.

XI. Attendance Policy:

Refer to the Coastal Bend College Airframe & Power Technology Program attendance policy.

XII. Bibliography:

A. Required Text:


2. JS312624, Standard Aviation Maintenance Handbook, Jeppesen Sanderson, Inc.

3. JS312617, AC 43.13-1B/2A, Acceptable Methods, Techniques, and Practices, Aircraft Inspection and Repair, Department of Transportation, Federal Aviation Administration, Jeppesen Sanderson, Inc.

B. Supplementary Text:

4. JS312616, Federal Aviation Regulations Handbook for Aviation Maintenance Technicians, Jeppesen Sanderson, Inc.


7. JS312625, Aircraft Technical Dictionary, Jeppesen Sanderson, Inc.

8. Aircraft Manufacturers Specifications and/or Support Material.