I. Course Number: AERM 1345

II. Course Title: Airframe Electrical Systems

III. Instructional Time:

Semester ------ 3 hours  
Lecture ------- 13 hours  
Lab ------------ 91 hours  
Final Test ----- 1 hour  
Total Clock -- 105 hours

IV. Course Description:

A study of airframe electrical systems including installation, removal, disassembly, and repair of electrical components and related wiring.

V. Course Learning Outcomes:

Repair and inspect aircraft electrical systems components; crimp and splice wiring to manufacturers’ specifications; repair pins and sockets of aircraft connectors; and install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices. Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems; and inspect, check, and troubleshoot constant speed and integrated speed drive generators.

VI. Program Objectives:

Level 3 A. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices.

Level 3 B. Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems.

Level 1 C. Inspect, check, and troubleshoot constant speed and integrated speed drive generators.

Level 2 D. Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors.
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VII. Practical Projects:

A. Perform maintenance of airframe electrical systems and components.

B. Perform maintenance of alternating and direct current electrical systems.

C. Research maintenance of constant speed and integrated speed drive generators.

D. Simulate inspection and repair of electrical system components, wiring, and connectors.

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>
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<tbody>
<tr>
<td>Final Examination</td>
<td>35%</td>
</tr>
</tbody>
</table>
E. Final percentage grades shall be converted to letter grades as follows:

- 90-100: A
- 80-89: B
- 70-79: C
- 60-69: D
- 59-0: F

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.