I. INTRODUCTION

A. A basic course in aviation general principles of auxiliary power units (APU) and powerplant system components used in large turbine powered aircraft to provide independent electrical power and compressed air when the main engines are not operating.

B. This is a required course of study for the Associate Degree of Applied Science in Aviation Maintenance Technology.

C. This course is occupationally related and serves as preparation for careers in the field of Aviation Maintenance.

D. Prerequisite: Successful completion of all required (G) general aviation maintenance courses.

II. LEARNING OUTCOMES

Upon successful completion of this course, Powerplant Auxiliary Power Units, the student will:

Explain the basic operational principles of Auxiliary Power Units and subcomponents. (F1,F5,F10)

III. INSTRUCTIONAL MATERIALS

A. The instructional materials identified for this course are viewable through www.ctcd.edu/books

B. Supplemental Reading: None

IV. COURSE REQUIREMENTS

The following will be required of each student for successful completion of this course:

A. Reading Assignment: Students are required to complete all reading assignments prior to the class in which the materials will be discussed. Students are subject to announced and unannounced written and oral examinations on assigned reading material.

B. Projects: None

C. Class performance: Students are required to attend all classes and to be in the classroom on time. The instructor can lower a student’s grade because of excessive tardiness. When absent from class for any reason, it is the student’s responsibility to arrange for and make up assignments missed during the absence.

D. Class Participation: Students will earn a satisfactory grade in the course by attending and regularly participating in class, giving complete attention to class activities, completion of all assigned work and successfully completing the examinations. Students are required to maintain a minimum GPA of 2.0 to receive a passing grade for the class and are encouraged to compute and monitor their GPA as the class progresses.

V. EXAMINATIONS

A. There will be one written examination for this course covering all lecture notes and reading material.

B. Practicum: None

VI. SEMESTER GRADE COMPUTATION

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<tr>
<th>EXAMINATIONS</th>
<th>POINTS</th>
<th>POINT TO GRADE RATIO</th>
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</thead>
<tbody>
<tr>
<td>EXAM 1</td>
<td>100</td>
<td>90-100 = A</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1000</td>
<td>80-89 = B</td>
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<td>70-79 = C</td>
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<td>60-69 = D</td>
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<td>0-59 = F</td>
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VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM COURSE INSTRUCTOR

A. **Course Withdrawal:** It is the student’s responsibility to officially drop a class if circumstances prevent attendance. In order to be officially withdrawn from the course, a student must obtain, complete and file an Application for Withdrawal form with the College. The student’s transcript will show “W” or “F”, depending on whether the student was passing or failing at the time of withdrawal.

B. **Administrative Withdrawal:** Students not meeting course objectives or who is not making satisfactory progress may be withdrawn from the course at the discretion of the instructor.

C. **Cellular Phones and beepers:** Cellular phones and beepers will be turned off while the student is in the classroom or laboratory.

D. **American’s with Disabilities Act (ADA):** Disability Support Services provide services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Explore the website at [www.ctcd.edu/disability-support](http://www.ctcd.edu/disability-support) for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

E. **Instructor Discretion:** The instructor reserves the right of final decision in course requirements.

F. **Civility:** Individuals are expected to be cognizant of what a constructive educational experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.

VIII. COURSE OUTLINE

A. **Module One:** Auxiliary Power Units

1. **Learning Outcomes:** upon successful completion of this module, the Student will:

   - Explain the purpose, function and operation of the Auxiliary Power Unit and subcomponents.
2. **Learning Activities:**

   Successfully complete examination one, covering material presented in this module. (F1,F5,F10)

3. **Equipment and Materials:**

   Operational or non-operational APU with controller and electrical system for exhibit and component identification; may be installed on airframe or mounted for display.

4. **Module Outline One: Auxiliary Power Units**

   a. Auxiliary Power Units (Powerplant Manual page 497)
   b. Air Turbine Starter (Powerplant Manual page 493)