I. INTRODUCTION

A. Conducting aircraft inspections is one of the most important functions the aviation maintenance technician performs. This course is a comprehensive study of methods and procedures to perform airframe conformity and airworthiness inspections (including one hundred hour inspections) in accordance with Federal Aviation Regulations and manufacturer’s service information. Safety concerns will be addressed in each facet of instruction.

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 the general (G) aviation maintenance courses.

II. LEARNING OUTCOMES

Upon successful completion of this course, Airframe Inspections, the student will:

A. Perform preflight, special, major, annual, 100-hour and progressive inspections on private and large aircraft. (C18-C20,F1-F6,F10,F17)

B. Examine aircraft records to determine special inspection or Airworthiness Directive inspection requirements and compliance with required inspections. (F1-F6,F10,F17)

C. Prepare documentation on the completion of inspections, failed inspections, repairs, alterations, modifications and airworthiness statement. (F1-F6,F10,F17)

III. INSTRUCTIONAL MATERIALS

January 2007
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: The following five projects will be completed by students only after coverage of the subjects by course material. Students are required to demonstrate proficiency and knowledge in each area. (Projects are to be assigned based on instructor discretion and availability of resources).

1. Determine from the aircraft records whether any repetitive Airworthiness Directives must be complied with on a 100-hour inspection.

2. Using the aircraft model and serial number, determine which Airworthiness Directives apply to the aircraft. Examine the aircraft maintenance records to determine if all of the applicable Airworthiness Directives have been completed.

3. Determine from the aircraft records when the next 100-hour inspection and the next annual inspection are due.

4. Explain the process of preparing an aircraft for a 100-hour inspection. Explain the inspections required. Demonstrate the correct maintenance record entries to show that the inspection has been conducted.
5. Describe the record entry that must be made when an altimeter system has been inspected in accordance with 14 CFR 91.171.

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 two written examinations for this course covering all the lecture notes and reading material. Each examination will carry a weight point of 400 points.

B. Practicum: Projects 1-5, with a value of 200 points, will be assigned by the instructor.

VI. SEMESTER GRADE COMPUTATION

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<thead>
<tr>
<th>EXAMINATIONS</th>
<th>POINTS</th>
<th>POINT TO GRADE RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXAM 1</td>
<td>400</td>
<td>900- 1000 = A</td>
</tr>
<tr>
<td>EXAM 2</td>
<td>400</td>
<td>800- 899 = B</td>
</tr>
<tr>
<td>Practicum/Project 1-5</td>
<td>200</td>
<td>600- 699 = D</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1000</td>
<td>0- 599 = 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 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.cted.edu/disability-support](http://www.cted.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: Inspections**

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

   a. Identify required preflight, special, major and large aircraft inspections necessary to keep an aircraft airworthy.

   b. Determine the different methods of tracking and conducting 100-hour and annual inspections for private and commercial aircraft.

2. **Learning Activities:**

   Successfully complete examination 1 covering the material in Module 1. (F1-F6,F10)
3. **Equipment and Materials:**

   a. Airworthy airframe with 100-hour and annual inspection checklist, appropriate service and maintenance manuals and maintenance records for same airframe, powerplant and subcomponents as required.

   b. Aircraft jacks suitable for use with the above airframe.

   c. Ground powered unit or APU to power electrical systems.

5. **Module Outline One: Inspections**

   **Required Inspections**
   1. Preflight Inspections
      - Preflight inspection sequence
   2. Special Inspections
      a) Altimeters and Static Systems
      b) Static Systems check
      c) ATC Transponder
   3. Major Inspections
      a) Annual Inspection
      b) 100-Hour Inspection
      c) Progressive Inspection
   4. Large Aircraft Inspections

B. **Module Two: Conduct of Annual or 100-Hour Inspection.**

   1. **Learning Outcomes:** upon successful completion of this module, the Student will:
      a. Examine aircraft records Airworthiness Directives and Airworthiness alerts to determine inspection requirements and compliance.
      b. Perform inspections on aircraft fuel, landing gear, airframe and control systems.
      c. Complete appropriate documentation indicating completion of inspection and findings.

   2. **Learning Activities:**
a. Successfully complete examination 2 covering material presented in Module 2. (F1-F6,F10)

b. Complete projects 1-5. (C18-C20,F1-F6,F10,F17)

3. **Equipment and Materials:**
   
   a. **Airworthy airframe with 100-hour and annual inspection checklist, appropriate service and maintenance manuals and maintenance records for same airframe, powerplant and subcomponents as required.**
   
   b. **Aircraft jacks suitable for use with the above airframe.**
   
   c. **Ground powered unit or APU to power electrical systems**
   
   d. **Blank FAA Form 337, sample of an Airworthiness alert, sample of a Supplemental Type Certificate (STC), sample of a Type Certificate Data Sheet (TCDS), and a sample Airworthiness Directive (AD note)**

4. **Module Outline Two: Conduct of Annual or 100-Hour Inspections**
   
   a. **Examination of the Aircraft Records**
      
      **Survey of Maintenance information**
   
   b. **Inspection of the Aircraft**
      
      1. **Fuel system**
      2. **Landing gear**
      3. **Airframe**
      4. **Control system**
   
   c. **Record of the Inspection**
   
   d. **Failed Inspection**