Course Outline

COURSE: AMT 110  DIVISION: 50  ALSO LISTED AS:

TERM EFFECTIVE: Spring 2018  CURRICULUM APPROVAL DATE: 03/27/2017

SHORT TITLE: AIRFRAME MAINT

LONG TITLE: Airframe Maintenance Technology

<table>
<thead>
<tr>
<th>Units</th>
<th>Number of Weeks</th>
<th>Type</th>
<th>Contact Hours/Week</th>
<th>Total Contact Hours</th>
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<td>13.5</td>
<td>18</td>
<td>Lecture:</td>
<td>9</td>
<td>162</td>
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<tr>
<td></td>
<td></td>
<td>Lab:</td>
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<td>243</td>
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<td>Other:</td>
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<tr>
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<td>Total:</td>
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COURSE DESCRIPTION:

This course is an FAA Part 147 course designed to prepare the student for their FAA Airframe certificate. The course will provide the student with a thorough understanding of airframe structures; metal structural repair; aircraft welding; aircraft instruments; communications and navigation systems; fuel systems; and cabin environmental systems. Both theory and practical application to aircraft systems is taught.

COREQUISITE: AMT 100, General Aircraft Technology. ADVISORY: Mathematics 430

PREREQUISITES:

COREQUISITES:

AMT 100

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion
03 - Lecture/Laboratory
04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

4/12/2017
1. The student demonstrates the ability to meet the written test standards outlined in FAA AC 147-3 – Certification and Operation of Aviation Maintenance Technician Schools.
   Measure of assessment: Homework assignments, quizzes and written tests.
2. The student demonstrates the ability to meet the oral/practical test standards outlined in FAA AC 147-3 – Certification and Operation of Aviation Maintenance Technician Schools.
   Measure of assessment: Shop/lab projects and oral/practical demonstrations
3. Demonstrate the ability to inspect and determine if components and aircrafts meet airworthy standards outlined in FAA AC 43.13-1B – Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair.
   Measure of assessment: Shop/lab projects and oral/practical demonstrations

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 03/27/2017

LECTURE CONTENT:
18 Hours

AIRCRAFT WELDING
Content: The design and creation of aircraft grade weld joints. The inspection of weld joints to insure they meet FAA standards. Welding safety procedures.
Student Performance Objective: The student will demonstrate welding safety procedures, the operation of welding equipment, and creation of welding joints that meet FAA standards. The student will use FAA standards to inspect welds and determine their airworthiness.
Student Performance Objective: Create and inspect FAA quality welds.

63 Hours

AIRCRAFT SHEET METAL CONSTRUCTION AND REPAIR
Content: Operation of sheet metal tools. Computation of rivet length, diameter and properly driven dimension. The design, creation and inspection of FAA acceptable rivet joints. The design and creation of FAA acceptable sheet metal joints. The design and creation of FAA acceptable sheet metal repairs. The completion off FAA forms to submit major structural repair.
Student Performance Objective: Create and inspected FAA quality rivet joints, sheet metal repairs and sheet metal bents. Complete the supporting FAA repair forms.

27 Hours

AERODYNAMICS, RIGGING AND ASSEMBLY OF AIRCRAFT STRUCTURES
Content: Physic and geometry behind airfoil lift, wings and aircraft control surface. Helicopter aerodynamics. Installation, inspection, adjustment and repair of aircraft control surfaces.
Student Performance Objective: The student must explain how an aircraft generates lift and uses aircraft control surfaces to direct flight. The student will disassemble an aircraft’s control system and return the control system to proper rigging that meets FAA and manufacturer’s specification.

18 Hours

CABIN ENVIRONMENTAL SYSTEMS
Content: Aircraft pressurization, heat and air conditioning systems.
Student Performance Objective: The student must be able to explain the operation and diagram aircraft pressurization, heat and air conditioning systems.

18 Hours

AIRCRAFT FUEL SYSTEMS
Content: Aircraft fuel types. Fuel system operations and components including tanks, pumps, filters and measuring devices.
Student Performance Objective: The student must be able to explain the operation and diagram aircraft fuel systems.

18 Hours

AIRCRAFT INSTRUMENT SYSTEMS
Content: Operation and testing of aircraft flight instruments
Student Performance Objective: The student must be able to explain the operation and diagram aircraft flight instrument systems.

2 Hours
Final

LAB CONTENT:
27 Hours

AIRCRAFT WELDING
Lab Projects: The student will demonstrate the able to follow welding safety procedures, create welded joints and inspect welded joints. The FAA standards will be used to determine joint acceptability.
94.5 hours

AIRCRAFT SHEET METAL CONSTRUCTION AND REPAIR
Lab Projects: Complete universal riveting, flush riveting, bending and metal repair
40.5 hours

AERODYNAMICS, RIGGING AND ASSEMBLY OF AIRCRAFT STRUCTURES
Lab Projects: The student will disassemble an aircraft’s control system and return the control system to proper rigging that meets FAA and manufacturer’s specification.
27 Hours

CABIN ENVIRONMENTAL SYSTEMS
Lab Projects: Service and inspect aircraft environmental systems and components.
27 Hours

AIRCRAFT FUEL SYSTEMS
Lab Projects: Service and inspect aircraft fuel systems and components.
27 Hours

AIRCRAFT INSTRUMENT SYSTEMS
Lab Projects: Install and test the operation of aircraft flight instruments.

METHODS OF INSTRUCTION:
Instruction will be done by: Classroom lecture with the use of visual aids and laboratory demonstration. Evaluation will be done by written exams, oral and practical examination, lab project sheets and by satisfactory completion of lab projects.

METHODS OF EVALUATION:
Writing assignments
Percent of total grade: 20.00 %
Category 1 - 20% to 40% Written homework Lab reports Term or other papers
Problem-solving assignments
Percent of total grade: 15.00 %
Category 2 – 15% to 30% Field Work Quizzes Exams
Skill demonstrations
Percent of total grade: 10.00 %
Category 3 – 10% to 20% Class Performance/s Field Work
Objective examinations
Percent of total grade: 30.00 %
Category 4 – 35% to 50% Multiple Choice True/False Matching Items

OUT OF CLASS ASSIGNMENTS:
Required Outside Hours: 10
Assignment Description:
AIRCRAFT WELDING

4/12/2017
Homework: Complete reading assignments and answer question sheets.
Required Outside Hours: 35
Assignment Description:
AIRCRAFT SHEET METAL CONSTRUCTION AND REPAIR
Homework: Complete reading assignments and answer question sheets.
Required Outside Hours: 15
Assignment Description:
AERODYNAMICS, RIGGING AND ASSEMBLY OF AIRCRAFT STRUCTURES
Homework: Complete reading assignments and answer question sheets.
Required Outside Hours: 10
Assignment Description:
CABIN ENVIRONMENTAL SYSTEMS
Homework: Complete reading assignments and answer question sheets.
Required Outside Hours: 10
Assignment Description:
AIRCRAFT FUEL SYSTEMS
Homework: Complete reading assignments and answer question sheets.
Required Outside Hours: 10
Assignment Description:
AIRCRAFT INSTRUMENT SYSTEMS
Homework: Complete reading assignments and answer question sheets.

REPRESENTATIVE TEXTBOOKS:
Required:
ISBN: 978-1-56027-728-6
Reading level of text, Grade: 12thVerified by: MS Word
Required:
ISBN: 978-0983865810
Reading level of text, Grade: 12thVerified by: MS Word
Required:
ISBN: 978-1560279525
Reading level of text, Grade: 12thVerified by: MS Word
Other textbooks or materials to be purchased by the student: The student will be required to provide basic tools.

ARTICULATION and CERTIFICATE INFORMATION
Associate Degree:
CSU GE:
IGETC:
CSU TRANSFER:
Transferable CSU, effective 199050
UC TRANSFER:
Not Transferable

4/12/2017
SUPPLEMENTAL DATA:
Basic Skills: N
Classification: Y
Noncredit Category: Y
Cooperative Education:
Program Status: 1 Program Applicable
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department: AMT
CSU Crosswalk Course Number: 110
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: B
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000260506
Sports/Physical Education Course: N
Taxonomy of Program: 095010

4/12/2017