Columbus State Community College
Engineering and Transportation Technologies
Aviation Maintenance Technology

COURSE: AMT 2105 Aircraft Non-Metallic Structures

CREDITS: 5 CLASS HOURS PER WEEK: 24 PREREQUISITES: AMT 1103

DESCRIPTION OF COURSE
This course is an introduction to aircraft structures constructed using composite materials and wood and doped fabric materials. Students will learn the basic core materials, types of material used, and repair procedures. This course will also cover maintenance practices related to windows, doors and interior furnishings. The students will become familiar with inspection and repair techniques of wood structures. Students will also study the types of aircraft fabric covering with a focus on inspection and repair of polyester based covering. The course will also cover the principles of composites aircraft structures.

STUDENT LEARNING OUTCOMES
Student will demonstrate an understanding of Aircraft Non-Metallic Structures including wood structures, composite structures, plastic structures, and finishing materials.

GENERAL EDUCATION OUTCOMES
- Technological Competence

INSTITUTIONAL LEARNING GOALS
Columbus State Community College's Institutional Learning Goals are an integral part of the curriculum and central to the mission of the college. The faculty at Columbus State has identified the following institutional learning goals:
- Critical Thinking
- Scientific Literacy

COURSE MATERIALS REQUIRED
CSCC Aviation Technology required tools.

TEXTBOOK, MANUALS, REFERENCES, AND OTHER READINGS
Airframe 8083-31 Vol 1
Airframe 8083-31 Vol 2
Airframe Workbook
A&P Airframe Test Guide

AVIATION MAINTENANCE TECHNOLOGY SYLLABUS STATEMENTS
Aviation Maintenance Technology required College Syllabus Statements on **Assessment**, **Participation and Safety**, and **Attendance** can be found at http://www.cscc.edu/academics/departments/aviation-maintenance/requirements.shtml or on

the College website –Search ‘Aviation’; click on ‘Aviation Maintenance’; click on ‘Requirements’ tab.

SPECIAL COURSE REQUIREMENTS

Part 147 Para 147.21 (d) (3) and 147.31 (b) state that tests must be given in all subject areas and that the tests given must all be passed.

As students progress through the program, they will be given subject area tests relative to the course subject areas. Students must demonstrate a 70% minimum passing score on every subject test. If a subject area test is failed, the student will be given additional opportunities to pass the subject test. All subject tests must be passed before a certificate of program completion can be issued.

FAA Subject Are Test for this course:

Airframe A – Wood Structures
Airframe B – Aircraft Covering
Airframe C – Aircraft Finishes
Airframe D2 – Aircraft Non-Metallic Structures (AMA D10, D11, D12, D13)

To be awarded a Certificate of Program Completion, in addition to subject area testing, the student must also:

Successfully pass each course required for the certificate. Requirements for passing each course include:

A 70% average evaluation for graded course elements. Instructors determine the weights of course grading.

Successful completion of all required laboratory requirements of the course.

Attendance in compliance with the attendance policy.

Students can pass a course with a grade of “D”, however students must have a minimum overall Grade Point Average of 2.0 (out a possible 4.0) to be awarded a certificate of completion. Courses can be repeated to improve grades.

Grade Area	Weight	Percentage Earned		Lab Project	Pass	Fail
Unit Tests	60%					
Mid-Term						

Final	10%					
Participation & Safety	10%					
Other – Homework Assignments	20%					
Total	100%					
Course Letter Grade						

Student Resources, Rights, and Responsibilities: Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at https://www.cscc.edu/academics/syllabus.shtml.

UNITS OF INSTRUCTION – AMT 2105

ASSIGNMENT	LEARNING OBJECTIVES/GOALS	ASSESSMENT METHODS	ASSIGNMENTS		
Assignment 1	Aircraft Wood Structures	Test, Quizzes, Worksheets	Read:	Airframe Text Ch 3 Sec A **or** FAA Order 8083-31 Ch 6	
			Labs:		
			Test:	Test 1	
Assignment 2	Aircraft Composite Structures	Test, Quizzes, Worksheets	Read:	Airframe Text Ch 3 Sec B **or** FAA Order 8083-31 Ch 7.1-7.54	
			Labs:		
			Test:	Test 2	
Assignment 3	Transparent Plastic Materials	Test, Quizzes, Worksheets	Read:	Airframe Text Ch 3 Sec C **or** FAA Order 8083-31 Ch 7.54-7.68	
			Labs:		
			Test:	Test 3	
Assignment 4	Aircraft Fabric Covering	Test, Quizzes, Worksheets	Read:	Airframe Text Ch 5 **or** FAA Order 8083-31 Ch 3	
			Labs:		
			Test:	Test 4	
Assignment 5	Aircraft Painting and Finishing	Test, Quizzes, Worksheets	Read:	Airframe Text Ch 6 **or** FAA Order 8083-31 Ch 8	
			Labs:		
			Test:	Test 5	