COLUMBUS STATE
COMMUNITY COLLEGE

Columbus State Community College
Engineering and Transportation Technologies
Aviation Maintenance Technology

COURSE: AMT 2108 Aircraft Landing Gear and Fluid Power

CREDITS: 4 CLASS HOURS PER WEEK: 21 PREREQUISITES: AMT 1103

DESCRIPTION OF COURSE
This course will include heavy focus on hydraulic and pneumatic principles, inspection and repair of air/oil struts, wheels, brakes, tires, and the landing gear system in relation to the aircraft. .

COURSE GOALS
- Principles of Hydraulic Power
- Hydraulic System Components and Design
- Hydraulic Power Systems
- Aircraft Pneumatic Systems
- Landing Gear Systems and Maintenance
- Aircraft Brakes
- Aircraft Tires and Tubes
- Antiskid Brake Control Systems
- Critical Thinking
- Technological Competence

STUDENT LEARNING OUTCOMES
The Student will demonstrate a knowledge of operational theory of Hydraulic System Components, Design & maintenance.
The Student will demonstrate a knowledge of Aircraft Pneumatic Systems.
The Student will demonstrate knowledge of Landing Gear Systems and Maintenance practices.

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
- Technological Competence

COURSE MATERIALS REQUIRED
All tools on the Columbus State Community College Aviation Maintenance Technology Minimum Required Tool List are required.

TEXTBOOKS—REQUIRED AND OPTIONAL READINGS
Airframe 8083-31 Vol 1
Airframe 8083-31 Vol 2
Airframe Workbook

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:

III-K Aircraft Landing Gear Systems
III-L Hydraulic and Pneumatic Power Systems

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%			Inspect and service hydraulic & pneumatic		

				systems		
Quiz	0%			Inspect and service landing gear systems		
Final	20%			Wheels and tires		
Participation & Safety	10%			Inspect and service brakes		
Use of Own Tools	10%			Check anti-skid systems		
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 2108

ASSIGNMENT	LEARNING OBJECTIVES/GOALS	ASSESSMENT METHODS	ASSIGNMENTS	
Assignment 1	Principles of Hydraulic Power, System Components and Design	Test, Quizzes, Worksheets	Read:	Aviation Maintenance Tech. Handbook chapt.12 pages 2-5
			Labs:	Identify System Components
			Test:	Principles of Hydraulic power
Assignment 2	Hydraulic Power Systems	Test, Quizzes, Worksheets	Read:	Aviation Maintenance Tech. Handbook chapt.12 pages 6-51
			Labs:	Hydraulic System Operation
			Test:	Component Inspection & operation
Assignment 3	Aircraft Pneumatic Systems	Test, Quizzes, Worksheets	Read:	Aviation Maintenance Tech. Handbook chapt.12 pages 51-52
			Labs:	Aircraft Pneumatic Systems Inspection and service
			Test:	Principles of Pneumatic system
Assignment 4	Landing Gear Systems and Maintenance	Test, Quizzes, Worksheets	Read:	Aviation Maintenance Tech. Handbook chapt.13 pages 2-34
			Labs:	Inspect and service landing gear systems
			Test:	Landing Gear Test
Assignment 5	Aircraft Brakes, Tires and Tubes	Test, Quizzes, Worksheets	Read:	Aviation Maintenance Tech. Handbook chapt.13 pages 34-62 & 76-95
			Labs:	Inspect and service brakes, wheels and tires
			Test:	Brake, wheels & tire test
Assignment 6	Antiskid Brake Control Systems	Test, Quizzes, Worksheets	Read:	Aviation Maintenance Tech. Handbook chapt.13 pages 62-75
			Labs:	Check anti-skid systems
			Test:	Anti-skid test