

**Columbus State Community College
Engineering and Transportation Technologies
Aviation Maintenance Technology**

COURSE: AMT 1105 Aircraft Ground Handling & Safety

CREDITS: 2 CLASS HOURS PER WEEK: 9

PREREQUISITES: ENGL 1100; MATH 1050 or 1099

DESCRIPTION OF COURSE

Aircraft Maintenance cannot be safely performed unless there is a complete understanding of the hazards and handling procedures involved with aircraft in a hangar, shop, or outdoor ramp environment. In this class, students will study and engage in practices involving aircraft in these situations. Emphasis will be placed on accomplishment of tasks while preserving a safe environment for personnel as well as the equipment. Students will become proficient in performing various aircraft maintenance responsibilities that involve shop safety, tie down procedures, aircraft jacking and hoisting, and aircraft engine operation.

COURSE GOALS

- Identify typical hazards in a shop, hangar, or ramp environment
- Operate, service, and secure aircraft
- Identify and select proper fuels for aircraft
- Participate in safely jacking an aircraft
- Operate an aircraft engine
- Cultural and Social Awareness
- Scientific Literacy
- Technological Competence

COURSE STUDENT LEARNING OUTCOMES

Shop hazards
Aircraft ground operation and servicing
Aircraft fueling
Jack aircraft

PROGRAM OUTCOMES

Upon completion of the Aviation Maintenance Technology curriculum, the graduate will be able to: • Service, inspect, and complete repairs and alterations on airframes, engines, propellers, and associated systems (including environmental, electrical, fuel, hydraulic, and pneumatic systems) • Utilize the regulations and technical manuals to complete inspections, repairs, and alterations of aircraft safely and to complete the required maintenance entries after finishing inspection, repair and/or alteration • Properly use precision measuring equipment for the accuracy demanded by the aviation industry • Understand blueprints used for the repair and alteration of aircraft and utilize them to affect the repair or alteration • Identify aircraft materials and hardware and their structural properties. Correctly identify corrosion and the proper treatment and prevention methods and techniques • Identify and use nondestructive testing methods used in the aviation industry • Meet FAA certification requirements for the Airframe and Powerplant Certificates.

OUTCOMES BASED ASSESSMENT OF STUDENT LEARNING

For this course, students are expected to demonstrate the skills associated with the Institutional Learning Goals (ILG) identified below:

- Technological Competence
- Communication Competence
- Cultural and Social Awareness

In class, students are assessed on their achievement of these outcomes. Names will not be used when reporting results. Outcomes-based assessment is used to improve instructional planning and design and the quality of student learning throughout the college.

COURSE MATERIALS REQUIRED

Eye Protection

Hearing protection

TEXTBOOKS—REQUIRED AND OPTIONAL READINGS

General 8083-30-ATB

General Workbook

General Test Guide

AC 43.13 1B/2B

ASA/FAR/AMT 2015 by ASA

Aviation Mechanic Handbook

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.csc.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 Area Test for this course:

I – F Ground Operations and Servicing

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	50%			Shop Safety		
Mid-Term				Fire Protection		
Final	30%			Safety on the Flightline		
Participation & Safety	10%			Jacking & Hoisting		
Other	10%			Aircraft Fueling		
Total	100%			Aircraft Engine Operation		
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.csc.edu/academics/syllabus.shtml>.

UNITS OF INSTRUCTION – AMT 1105

ASSIGNMENT	LEARNING OBJECTIVES/GOALS	ASSESSMENT METHODS	ASSIGNMENTS	

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Assignment 1	Shop and Fire Safety	Test, Worksheets	Read:	FAA General Handbook 8083-30A Chapter 1 Pages 1-9
			Labs:	Safety & Fire. labsheet
			Test:	Test 1
Assignment 2	Safety on the Flightline	Test, Worksheets	Read:	FAA General Handbook 8083-30A Chapter 1 Pages 4-5; 9-12
			Labs:	Flightline Safety lab
			Test:	Test 2
Assignment 3	Aircraft Servicing	Test, Worksheets	Read:	FAA General Handbook 8083-30A Chapter 1 Pages 22-29
			Labs:	Service Lab, Aircraft Jacking lab
			Test:	Test 3
Assignment 4	Ground Operations	Test, Worksheets	Read:	FAA General Handbook 8083-30A Chapter 1 Pages 13-19
			Labs:	Engine Starting lab, Directing Aircraft Lab
			Test:	Test 4