

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

**COURSE: AMT 2204 Reciprocating Engine Maintenance 2**

**CREDITS: 5    CLASS HOURS PER WEEK: 24    PREREQUISITES: AMT1103**

**DESCRIPTION OF COURSE**

This course covers the reciprocating engine ignition, fuel metering and induction systems. Students study magnetos, float carburetors, fuel injections systems, supercharging and turbo-supercharging. Emphasis is placed on the theory of operation, inspection, maintenance practices, and troubleshooting of each system.

**COURSE GOALS**

Reciprocating Engine Ignition Systems  
Reciprocating Engine Fuel & Fuel Metering Systems  
Reciprocating Engine Induction Systems

**GENERAL EDUCATION GOALS**

- Information Literacy

**STUDENT LEARNING OUTCOMES**

The student will demonstrate the ability to maintain reciprocating aircraft engine ignition systems.  
The student will demonstrate the ability to maintain reciprocating aircraft engine fuel metering systems.  
The student will demonstrate the ability to maintain reciprocating aircraft engine induction systems.

**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**

FAA-H-8083-32 Airframe and Powerplant Mechanics Powerplant 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:

- V-L Ignition and Starting Systems
- V-M Fuel Metering Systems
- V-N Engine Fuel Systems
- V-O Induction and Engine Airflow 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	40%			Overhaul Magneto & Harness		

Quiz	15%			Inspect and Service Ignition System		
Final	20%			Overhaul Carburetor		
Participation & Safety	10%			Inspect and Service Fuel Metering and Engine Fuel System		
Other –	15%			Inspect and service Induction System		
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.csc.edu/academics/syllabus.shtml>.

**UNITS OF INSTRUCTION – AMT 2204**

<b>ASSIGNMENT</b>	<b>LEARNING OBJECTIVES/GOALS</b>	<b>ASSESSMENT METHODS</b>	<b>ASSIGNMENTS</b>	
<b>Assignment 1</b>	Reciprocating Engine Ignition Systems	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 4 pg 1-39
			Labs:	Inspect and Maintain Reciprocating Ignition System
			Test:	Ignition Test
<b>Assignment 2</b>	Reciprocating Engine Fuel Metering Systems	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 2 pg 1-32
			Labs:	Inspect and Maintain Reciprocating Fuel Metering System
			Test:	Fuel Metering
<b>Assignment 3</b>	Reciprocating Engine Fuel Systems	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 2 pg 32-34
			Labs:	Inspect and Maintain Reciprocating Engine Fuel System
			Test:	Engine Fuel Systems
<b>Assignment 4</b>	Reciprocating Engine Induction Systems & Reciprocating Engine Supercharging	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 3 pg 1-17
			Labs:	Inspect and Maintain Induction System
			Test:	Induction