

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

COURSE: AMT 2206 Powerplant Inspection

**CREDITS: 4 CLASS HOURS PER WEEK: 18 PREREQUISITES: AMT 2201, AMT 2202,
AMT 2203**

DESCRIPTION OF COURSE

Powerplant Capstone course. In this course, aviation maintenance students will hone their critical inspection skills by studying the application of Federal Aviation Regulations to aircraft maintenance and the aircraft technician. With the help of aircraft maintenance forms, records, publications, and other pertinent technical data, an examination of the disposition of the required maintenance records, the use of inspection equipment and aids, and the proper procedures for returning the aircraft to service, and inspection of a complete powerplant and all related systems will be accomplished.

COURSE GOALS

- Engine Cooling Systems
- Engine Exhaust Systems
- Maintenance of Reciprocating Aircraft Engines
- Maintenance of Turbine Aircraft Engines
- Inspect Engines for Airworthiness
- Critical Thinking
- Technological Competence

STUDENT LEARNING OUTCOMES

The student will demonstrate knowledge and ability to maintain aircraft engine cooling systems.
The student will demonstrate knowledge and ability to maintain aircraft engine exhaust systems.
The student will demonstrate knowledge and ability to maintain reciprocating aircraft engines.
The student will demonstrate knowledge and ability to maintain turbine aircraft engines.
The student will demonstrate knowledge and ability to perform powerplant conformity and airworthiness inspections.

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

Powerplant 8083-32

Powerplant Workbook

A&P Powerplant 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.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-P: Engine Cooling Systems

V-Q: Engine Exhaust and Reverser Systems

IV-C: Engine Inspection

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		Lab Project	Pass	Fail
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		Earned				
Unit Tests	40%			Cooling Systems		
Quiz	20%			Exhaust Systems		
Final	10%			Reciprocating Engine Maintenance		
Participation & Safety	10%			Turbine Engine Maintenance		
Other	20%			Engine Inspection		
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 2206

ASSIGNMENT	LEARNING OBJECTIVES/GOALS	ASSESSMENT METHODS	ASSIGNMENTS	
Assignment 1	Engine Cooling Systems	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 6 pg 33-39
			Labs:	Cooling System Inspect and Repair
			Test:	Engine Cooling Systems
Assignment 2	Engine Exhaust Systems	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 3 pg 22-26
			Labs:	Exhaust System Inspect and Repair
			Test:	Engine Exhaust Systems
Assignment 3	Reciprocating Engine Maintenance	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 10 pg 25-44
			Labs:	Perform Engine Maintenance
			Test:	Maintenance Practices
Assignment 4	Turbine Engine Maintenance	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook Chapter 10 pg 46-60
			Labs:	Perform Engine Maintenance
			Test:	Maintenance Practices
Assignment 5	Engine Conformity and Airworthiness Inspection	Test, Quizzes, Worksheets	Read:	FAA-H-8083-32 Powerplant Handbook
			Labs:	Perform Engine Inspection
			Test:	Engine Inspection