



MASTER COURSE OUTLINE

Prepared By: Gregory Crane

Date: January 2014

COURSE TITLE

AIRCRAFT SYSTEMS FOR PILOTS

GENERAL COURSE INFORMATION

Dept.: AVF

Course Num: 227

(Formerly:)

CIP Code: 49.0102

Intent Code: 22

Program Code:

Credits: 5

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 55

Lab Hrs:

Other Hrs:

Distribution Designation: General Elective (GE)

COURSE DESCRIPTION (as it will appear in the catalog)

Introduces the systems of complex aircraft: fuel, hydraulic, brake, control, ignition, and electrical systems; covers nomenclature, preventive maintenance, engines, propellers, and related publications.

PREREQUISITES

None

TEXTBOOK GUIDELINES

Appropriate textbook as chosen by Aviation Flight Faculty (Example: *Aircraft Systems: Understanding Your Airplane*, by Lombardo, David A.)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Demonstrate a working knowledge of the aircraft structure, engine and related systems that will aid the student in analyzing performance deterioration or malfunctions of the complex aircraft.
2. Demonstrate an understanding of the preventative maintenance that may be performed by rated pilots.

INSTITUTIONAL OUTCOMES

IO1 **Communication:** Students will be able to communicate clearly and effectively

COURSE CONTENT OUTLINE

UNIT I AIRCRAFT MAINTENANCE

- A. Class Introduction
- B. Required Aircraft Documents
- C. Aircraft Maintenance Regulations
- D. Purchasing an Aircraft
- E. TEST #1 & REVIEW

UNIT II AIRCRAFT SYSTEMS

- A. Aircraft Structures
- B. Landing Gear

- C. Control System
- D. Fuel System
- E. Hydraulic System
- F. Electrical System
- G. Instrument System
- H. TEST #2 & REVIEW

UNIT III POWERPLANT SYSTEMS

- A. Operating Principles of Powerplant Systems
- B. Mechanical System
- C. Cooling System
- D. Lubrication System
- E. Ignition System
- F. Fuel and Induction System
- G. Propellers
- H. TEST #3 & REVIEW

UNIT IV FBO REPORTS

UNIT V AIRCRAFT INSPECTIONS AND MAINTENANCE

- A. Annual inspections
- B. 100-hour inspections
- C. Preventive Maintenance and ground rules for pilot performed maintenance
- D. Fine points on aircraft engine operation
- E. TEST #4 & REVIEW

DEPARTMENTAL GUIDELINES *(optional)*

Evaluation is by quizzes, class projects, mid-term and final tests. Grading procedure includes attendance. Grades will be earned according to the following numerical system. Note *70% is lowest passing grade.

98-100%	4.0	90%	3.2	82%	2.4	74%	1.5
97%	3.9	89%	3.1	81%	2.3	73%	1.3
96%	3.8	88%	3.0	80%	2.2	72%	1.1
95%	3.7	87%	2.9	79%	2.1	71%	.9
94%	3.6	86%	2.8	78%	2.0	70%	.7
93%	3.5	85%	2.7	77%	1.9		
92%	3.4	84%	2.6	76%	1.8		
91%	3.3	83%	2.5	75%	1.7		

DIVISION CHAIR APPROVAL

DATE