

Department of Engineering and Technology Education
Semester Course Syllabus
Fall 2008

AV 1140 - Aircraft Components & Principles
2 credits

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I. Catalog Description

Materials and hardware, nondestructive inspection applicable to aircraft.
Plumbing methods, maintenance publications, and aircraft weight and balance control.

II. Course Objectives

Upon completion, each student will be able to achieve the level of proficiency indicated by the number in parenthesis:

Teaching Level

A. Understanding Publications

- (3) 1. Types of publications
- (3) 2. Aero fiche Systems
- (3) 3. Publication usage

B. Materials and Processes

- (3) 1. Identify and Select Aircraft Hardware
- (3) 2. Identify and Select Aircraft Materials
- (2) 3. Nondestructive Inspection

C. Fluid Lines and Fittings

- (3) 1. Fluid Lines in Aircraft
- (3) 2. Rigid Fluid Lines
- (3) 3. Fabrication of Fluid Lines
- (3) 4. Flexible Fluid Lines
- (3) 5. Types of Flexible Fluid Lines
- (3) 6. Installation of Rigid Lines
- (3) 7. Inspection & Repair of Rigid Lines
- (3) 8. Installation of Flexible Hoses

D. Basic Chemistry

- (1) 1. Introduction
- (1) 2. Ions
- (1) 3. Ionic Bonds
- (1) 4. Covalent Bonds
- (1) 5. Coordinate Covalent Bonds
- (1) 6. The Shapes of Molecules
- (1) 7. Electron negativity and Dipoles
- (1) 8. How to Predict the Kinds of Bonds That Form

- (1) 9. What Bonds to What?
- (1) 10. Polyatomic Ions
- (1) 11. Naming of Simple Inorganic Compounds
- (1) 12. The Organization of Matter
- (1) 13. Gases
- (1) 14. Pressure
- (1) 15. Gas Laws
- (1) 16. Avogadro's Law and the Ideal Gas Law
- (1) 17. Dalton's Law and Graham's Law
- (1) 18. Intermolecular Forces
- (1) 19. Liquids
- (1) 20. Evaporation and Condensation. Boiling Point
- (1) 21. Surface Tension
- (1) 22. Solids
- (1) 23. Freezing and Boiling. Phase Changes

E. Cleaning and Corrosion Control

- (3) 1. Identify and select cleaning materials
- (3) 2. Perform Aircraft Cleaning
- (3) 3. Corrosion Control, Perform

F. Weight and Balance

- (2) 1. Principles of Weight and Balance
- (2) 2. Basic Measurements and Computations
- (2) 3. Center of Gravity Range
- (2) 4. Move Center of Gravity
- (2) 5. Adverse-Loaded Center of Gravity
- (2) 6. Weight and Balance Changes after Alteration
- (2) 7. Helicopter Weight and Balance
- (2) 8. Aircraft Loading & Weight Distribution

G. Inspect Welds

- (1) 1. Inspect Welds

III. Text

A & P Technician General Kit

IV. Course Fees

A course fee of \$25.00 is paid at registration and is used for consumables for the lab.

V. Grades

Grades are determined by the total points of examinations, quizzes, and lab assignments. At least two major exams will be given.

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 55%	F

VI. Examination Schedule

Lab Projects	100 points
Two examinations worth 100 pts each	200 points
Final Examination worth	200 points
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	500 points

VII. Laboratory

Projects will be assigned to coincide with the material taught in the lecture. Each student will complete all lab projects to the satisfaction of the instructor and to the level of instruction specified by FAR 147 Appendix A and B.

VIII. Attendance

Attendance is required for all students, and a daily roll will be kept as required by FAR 147. If a student does not meet the attendance requirements, he/she will not be permitted to take the FAA Airframe or Powerplant exams. All absences must be made up. A minimum of 78 clock hours are required in this course.

IX. Accommodation for Persons with Disabilities

Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, (435) 797-2444 voice, (435) 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.