

Engineering and Technology Education Department

Course Syllabus

AV 2440 - AIRCRAFT ELECTRICAL SYSTEMS LABORATORY
3 Credits

I. Catalog Description

Aircraft electrical systems practice, maintenance of aircraft alternators, generators, motors, regulating, and indicating systems. Lab for AV 2430.

II. Course Objectives

This course is designed to provide instruction and practical application of aircraft electrical systems, in the overhaul, testing, operating, installing, and troubleshooting of the direct current and alternating current equipment. Upon completion, each student will be able to achieve the level of proficiency indicated by the number in parenthesis.

Teaching Level

A. Laboratory Projects

- (3) 1. Introductory fundamentals
- (3) 2. Calculate and measure electrical power
- (3) 3. Determine the relationship of voltage, current, resistance, continuity, and leakage.
- (3) 4. Repair 14 volt direct current generator
- (3) 5. Repair 28 volt direct current - high amperage
- (3) 6. Repair light duty alternator - 12 volt
- (3) 7. Inspect, service, and test lead acid cell battery
- (3) 8. Inspect, service, and test nickel cadmium battery
- (3) 9. Repair and service aircraft rotary invertors
- (3) 10. Repair and check aircraft static invertor
- (2) 11. Repair electric motors

- (3) 12. Electric power distribution
- (3) 13. Troubleshooting a specific electrical system
- (2) 14. Repair and test alternating current generators for aircraft

III Text Books

Aircraft electricity and Electronics, Fifth edition, Eisman, Brent, and McKinley

Reference:

Airframe Section textbook by Jeppeson
AC 43.13-1B & 2A, Aircraft Inspection and Repair/Aircraft
 Alterations
General Section textbook by Jeppeson

IV. Grades

Determined by the total points of examinations, quizzes, and presentations. At least two major exams will be given.

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

V. Examination Schedule

Midterm	200 points
Lab projects	400 points
Instructor evaluation	100 points
Final examination	<u>300 points</u>
	1,000 total points

VI. 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

VII. Attendance

Attendance is required for all A & P 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 **98** clock hours are required for this course.

Labs are held on Mondays and Wednesdays from 7:30 A.M. to 10:15 A.M.

Two holidays which will be observed are Human Rights Day, Monday January 19th, and Presidents Day, Monday, February 23rd. Tuesday, February 24th will follow a Monday class schedule.

VIII 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.