Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

AVT 1131 - Basic Aviation Electricity

Division: Science, Mathematics and Engineering

Department: Aviation Technology

Credit Hour Total: 3.0 **Lecture Hrs:** 2.0 **Lab Hrs:** 3.0

Date Revised: October 2012

Course Description:

Basic electrical principles to include the following: alternating and direct current (A/C and D/C) circuits, production of electricity, batteries, Ohm's law, capacitance, load analysis, electrical load circuits, integrated circuits, parallel, series, and compound circuits, and A/C and D/C motors. Two classroom, three lab hours per week.

General Education Outcomes:

- Oral Communication
- Critical Thinking/Problem Solving
- Values/Citizenship/Community
- Computer Literacy
- Information Literacy
- Written Communication

Course Outcomes:

Lead acid and nickel cadium batteries
Demonstrate knowledge of converting chemical energy into electrical energy. Demonstrate knowledge of battery servicing techniques, charging methods, and maintenance procedures. Demonstrate the ability to determine cell condition. Demonstrate knowledge of lead acid and nickel cadium safety considerations.

Assessment Method: Locally developed exams
Performance Criteria: 70% or higher on exams

Series and parallel circuits
Demonstrate knowledge of series and parallel circuits, solid state devices, circuit components, and logic devices.

Assessment Method: Locally developed exams
Performance Criteria: 70% or higher on exams

Direct and alternating current motors
Demonstrate knowledge of direct current, alternating current, and compound motors. Demonstrate knowledge of repair and inspection techniques of motors and components. Demonstrate knowledge of inspection techniques of armatures, field, and brush assemblies.

Assessment Method: Locally developed exams
Performance Criteria: 70% or higher on exams

Outline:

Electrical theory and basic laws
Series and parallel circuits
Lead acid and nickel cadmium batteries
Measuring voltage, current, and resistance in circuits
Direct and alternating current motors