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

Master Syllabus

AVT 1135 - Materials & Processes

Division: Science, Mathematics and Engineering

Department: Aviation Technology

Credit Hour Total: 4.0 **Lecture Hrs:** 2.0 **Lab Hrs:** 6.0

Date Revised: October 2012

Course Description:

Selection and proper use of nondestructive inspection techniques and equipment; basic heat treatments, identification and selection of correct aircraft hardware. Inspection of welds and precision measurements. Tube bending, cutting and flaring, high-pressure (MS) flareless fittings, repair of rigid lines, identification of fluid lines, fabrication of high and low pressure hose lines, bulkhead fittings. Two classroom, six lab hours per week.

General Education Outcomes:

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

Course Outcomes:

Inspection methods
Demonstrate knowledge of different types of non-destructive inspection methods to include eddy current, ultra sound, x-ray, and visual methods for sheet metal and composites.

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

Hardware types and requirements
Demonstrate a knowledge of different types of aircraft hardware, their proper installation and use, corrosion prevention, legal requirements for hardware, inspection of hardware for, and proper removal techniques of, corrosion.

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

Measurements
Demonstrate a high knowledge of, and the use of, different types of measuring equipment.

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

Outline:

Fluid lines and fittings
Inspection methods for aircraft structures
Hardware types and requirements for securing different types
Weld inspection
Measurements
Types of metals and their makeup