

## 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

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### 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 Competency
- ▣ Written Communication Competency
- ▣ Critical Thinking/Problem Solving Competency
- ▣ Values/Citizenship/Community Competency
- ▣ Computer Literacy Competency
- ▣ Information Literacy Competency

### 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