

## Master Syllabus

### AVT 2129 - Propellers

**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:

Removal, inspection, repair, dressing and installation of propellers. Propeller pitch, angle of attack and forces. Metal, wood and composite propellers. Variable pitch propellers including constant speed, reversing, feathering and ground adjustable propellers. Propeller systems including governors, ice control and auxiliary systems. Propeller storage and return to service. Propeller certificate data. 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:

#### Service, inspection, and repair

Demonstrate the ability to inspect, service, and repair minor dents and abrasions on propeller blades. Evaluate the damage to determine if it is beyond repair limits or will require repair station authority. Demonstrate the ability to return the propeller blade to serviceable condition.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or higher correct responses on exam

#### Removal and installation

Demonstrate the knowledge to remove, inspect, repair as necessary, and install a propeller using Federal Aviation Administration regulations and manufacturer-approved procedures.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or higher correct responses on exam

#### Variable pitch propellers

Demonstrate knowledge of variable pitch propellers including constant speed, reversing and feathering propellers. Demonstrate inspection and repair techniques of variable pitch propellers.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or higher correct responses on exam

#### Operational checks

Demonstrate the ability to statically and dynamically balance a propeller and perform operational checks. Analyze an out-of-balance condition to determine the procedures to correct the condition; understand the results of operating in an out-of-balance condition.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or higher correct responses on exam

### Outline:

Propeller removal and installation  
Propeller service, inspection, and repair  
Propeller operational checks  
Propeller certificate data  
Propeller control systems  
Propeller synchronizing, feathering, and constant-speed systems  
Propeller ice control systems