

## Master Syllabus

### AVT 2266 - Multi Engine Flight Lab

**Division:** Science, Mathematics and Engineering

**Department:** Aviation Technology

**Credit Hour Total:** 1.0                      **Lab Hrs:** 2.0

**Prerequisite(s):** AVT 1224 AND AVT 2263

**Other Prerequisite(s):** AND Approval of Department

**Date Revised:** May 2016

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### Course Description:

Prepares students with the aeronautical knowledge, skill and experience necessary to meet the requirements for a Federal Aviation Administration (FAA) Commercial Pilot Certificate with an Airplane Category and Multi Engine Land Class Rating. Topics include multi-engine aircraft systems, aerodynamics, flight maneuvers, single-engine operations, maximum performance takeoff and landing procedures, attitude control by instrument reference during single engine operations and single engine emergency procedures. Contact the Department for the current lab fee. Two lab hours per week.

### General Education Outcomes:

- ▣ Critical Thinking/Problem Solving Competency
- ▣ Values/Citizenship/Community Competency

### Course Outcomes:

#### Aircraft Systems

Demonstrate a basic understanding of multi engine aircraft systems, including weight and balance, fuel, hydraulic, landing gear, electrical and deicing systems. Analyze procedures for inoperative components during all phases of flight.

**Assessment Method:** Locally developed exams

**Performance Criteria:** (FAA) 70% or higher correct responses on exams

**Assessment Method:** Oral examination

**Performance Criteria:** Mastery of competency at 100%

**Assessment Method:** Simulations

**Performance Criteria:** Mastery of competency at 100%

#### Aerodynamics

Comprehend and demonstrate an understanding of multi engine aircraft aerodynamics, including induced flow, asymmetric thrust, critical engine and minimum controllable airspeed (V<sub>mc</sub>), engine feathering and zero thrust controllability.

**Assessment Method:** Locally developed exams

**Performance Criteria:** (FAA) 70% or higher correct responses on exams

**Assessment Method:** Oral examination

**Performance Criteria:** Mastery of competency at 100%

**Assessment Method:** Simulations

**Performance Criteria:** Mastery of competency at 100%

#### Flight Maneuvers

Demonstrate flight maneuvers in a multi engine aircraft, including the use of checklists, steep turns, stalls, spin awareness, emergency descent and engine-out procedures while maintaining specific flight attitudes and ground tracks with proficiency to Commercial Pilot standards.

**Assessment Method:** Locally developed exams

**Performance Criteria:** (FAA) 70% or higher correct responses on exams

**Assessment Method:** Oral examination

**Performance Criteria:** Mastery of competency at 100%

**Assessment Method:** Simulations

**Performance Criteria:** Mastery of competency at 100%

#### Single Engine Instrument Approaches

Demonstrate single engine instrument approaches, including the use of checklists and engine-out procedures while maintaining specific flight attitudes and ground tracks with proficiency to Commercial Pilot standards.

**Assessment Method:** Locally developed exams

**Performance Criteria:** (FAA) 70% or higher correct responses on exams

**Assessment Method:** Oral examination

**Performance Criteria:** Mastery of competency at 100%

**Assessment Method:** Simulations

**Performance Criteria:** Mastery of competency at 100%

### Outline:

Multi engine aircraft systemsMulti engine aerodynamicsMulti engine maximum takeoff and landing proceduresInstrument approaches during single engine operationSingle engine emergency procedures