

## Master Syllabus

### AVT 2157 - Aircraft Performance I

**Division:** Science, Mathematics and Engineering

**Department:** Aviation Technology

**Credit Hour Total:** 2.0

**Lecture Hrs:** 2.0

**Prerequisite(s):** AVT 1119

**Date Revised:** October 2012

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#### Course Description:

Principles of advanced aerodynamics, high-speed flight, takeoff, enroute and landing jet aircraft performance. Operational factors affecting aircraft performance in aircraft dispatch.

#### General Education Outcomes:

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

#### Course Outcomes:

##### Takeoff Field Length Requirements and Takeoff Performance

Define and apply takeoff field length requirements and takeoff performance, including balanced field length, clearways, stopways, flight path segments, takeoff EPR, V-Speeds and the effect of contaminated runways on takeoff performance.

**Assessment Method:** Behavioral observations

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

**Assessment Method:** Locally developed exams

**Performance Criteria:** 80% correct responses on exams

##### Climb Performance and Operational Factors

Comprehend and apply principles of climb performance and operational factors affecting climb performance, including all engine climb, engine inoperative climb, service ceiling and service ceiling engine inoperative performance.

**Assessment Method:** Behavioral observations

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

**Assessment Method:** Locally developed exams

**Performance Criteria:** 80% correct responses on exams

##### Landing Performance and Operational Factors

Comprehend and apply principles of landing performance, including AeroData Runway Analysis.

**Assessment Method:** Behavioral observations

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

**Assessment Method:** Locally developed exams

**Performance Criteria:** 80% correct responses on exams

#### Outline:

Advanced Aerodynamics  
Effects of Minimum Equipment List (MEL) / Configuration Deviation List (CDL) Items  
Takeoff, Enroute and Landing Aircraft Performance  
Flight Path Segments  
Field Length Requirements and Limitations  
Effects of Contaminated Runways  
Aerodata Runway Analysis