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

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

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 Equipement 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