MASTER COURSE OUTLINE
Prepared By: Gregory Crane Date: January 2014

COURSE TITLE
Multi-Engine Flight Lab

GENERAL COURSE INFORMATION

Dept.: AVF	Course Num: 275	(Formerly:)
CIP Code: 49.0102	Intent Code: 22	Program Code:
Credits: 2		
Total Contact Hrs Per Qtr.: 22		
Lecture Hrs: 22	Lab Hrs:	Other Hrs:
Distribution Designation: General Elective (GE)		

COURSE DESCRIPTION (as it will appear in the catalog)
Preparation for the FAA Multi-Engine rating.

PREREQUISITES
Commercial Pilot Certificate and Chief Pilot approval

TEXTBOOK GUIDELINES
Appropriate textbook as chosen by Aviation Flight Faculty (Example: *The Complete MultiEngine Pilot* by Gardner)
FAA-H-8083-3.
D95A Flight Manual by Beechcraft
FAA-S-8081-12B

COURSE LEARNING OUTCOMES
Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Demonstrate the required aeronautical skill and aeronautical knowledge required for the insurance of the Multi-engine class rating.

INSTITUTIONAL OUTCOMES
IO3 **Human Relations/Workplace Skills**: Students will be able to demonstrate teamwork, ethics, appropriate safety awareness and/or workplace specific skills

COURSE CONTENT OUTLINE
I. PREFLIGHT PREPARATION

A. Certificates and Documents
B. Weather Information
C. Cross-Country Flight Planning
D. National Airspace System
E. Performance and Limitations
F. Principles of Flight – Engine Inoperative
G. Operation of Systems
H. Aeromedical Factors

I. Physiological Aspects of Night Flying
J. Lighting and Equipment for Night Flying

II. PREFLIGHT PROCEDURES
A. Preflight Inspection
B. Cockpit Management
C. Engine Starting
D. Taxiing
E. Before Takeoff Check

III. AIRPORT OPERATIONS
A. Radio Communications and ATC Light Signals
B. Traffic Patterns
C. Airport and Runway Markings and Lighting

IV. TAKEOFFS, LANDINGS, AND GO-AROUNDS
A. Normal and Crosswind Takeoff and Climb
B. Normal and Crosswind Approach and Landing
C. Short-Field Takeoff and Climb
D. Short-Field Approach and Landing
E. Go-Around

V. PERFORMANCE MANEUVERS
A. Steep Turns

VI. NAVIGATION
A. Pilotage and Dead Reckoning
B. Radio Navigation and Radar Services
C. Diversion
D. Lost Procedure

VII. SLOW FLIGHT AND STALLS
A. Maneuvering During Slow Flight
B. Power-Off Stalls
C. Power-On Stalls
D. Spin Awareness

VII. EMERGENCY OPERATIONS
A. Emergency Descent
B. Maneuvering with One Engine Inoperative
C. Engine Inoperative - Loss of Directional Control Demonstration
D. Engine Failure During Takeoff Before V_{mc} (Simulated)
E. Engine Failure After Lift-Off (Simulated)
F. Approach and Landing with an Inoperative Engine (Simulated)
G. Systems and Equipment Malfunctions
H. Emergency Equipment and Survival Gear

IX. MULTIENGINE OPERATIONS IFR
A. Engine Failure during Straight-and Level Flight and Turns (by reference to instruments only)
B. Non-precision Instrument Approach - All Engines Operating (partial panel)
C. Instrument Approach - One Engine Inoperative

X. HIGH ALTITUDE OPERATIONS

A. Supplemental Oxygen
B. Pressurization

XI. POSTFLIGHT PROCEDURES
A. After Landing
B. Parking and Securing.

DEPARTMENTAL GUIDELINES *(optional)*
Evaluation is by in-flight demonstration of flight proficiency, oral examination of aeronautical knowledge and completion of home assignments.

Grading:
Satisfactory performance of maneuvers I/A/W FAA Practical Test Standards, satisfactory oral explanation I/A/W FAA practical Test Standards and at least 70% on home assignments _____Pass

Substandard performance of maneuvers or oral explanations as defined by FAA Practical Test Standards, or less than 70% on home assignments ____ Fail

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DIVISION CHAIR APPROVAL **DATE**