II. ENROLLMENT PREREQUISITES

A. The student must hold a Commercial Pilot Airplane Certificate with an Instrument rating.
B. The student must hold a current CLASS II MEDICAL Certificate.
C. The student must be issued a certificate of enrollment.

III. OVERALL OR GENERAL OBJECTIVES OF THE COURSE

This course will prepare the student to add the multi-engine airplane class rating without VFR limitations to a current Commercial Pilot Airplane certificate.

IV. COMPLETION STANDARDS AND COURSE REQUIREMENTS

This course will be complete when the student has demonstrated through stage check and school records that the necessary skill and experience to obtain the multi-engine airplane class rating has been attained.

V. NOTE - (VR) means visual references and (IR) means instrument references

February 2007
APPENDIX I

STAGE ONE - 5 HOURS DUAL

STAGE ONE OBJECTIVES: The student will become familiarized with multi-engine maneuvers and procedures under both VFR and IFR conditions.

STAGE ONE COMPLETION STANDARDS: This stage will be complete when the student satisfactorily passes the Stage One written and flight check

LESSON ONE - AIRCRAFT FAMILIARIZATION

A. OBJECTIVES: This lesson will be used to familiarize the student with the airplane used in the multi-engine course.

B. CONTENT:

   1. A/C preflight and documents to include use of checklists and minimum equipment lists (MEL)
   2. Familiarization flight
      a. Use of checklists
      b. V-speeds
      c. Engine start and operation
      d. Taxi and run-up
      e. Normal takeoffs and landings
      f. Straight and level, climbs, turns and descents
      g. Engine shut down procedures
   3. Post flight critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an understanding of preflight, use of checklists and taxi and run-up procedures.

LESSON TWO - BASIC MANEUVERS

A. OBJECTIVES: This lesson will be used to review lesson one and to allow the student to develop the student’s skill at flying the four basic flight maneuvers in a multi-engine airplane and to introduce the student to flight at minimum controllable airspeed and stall recognition and recovery.

B. CONTENT:

   1. Review
      a. Preflight
      b. Engine start and operation
Lesson One - Taxiing Basics

2. Introduction
   a. Minimum controllable airspeed
   b. Stalls, power off and power on

3. Post flight critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can fly straight and level, climb, descend and turn while maintaining airspeed within 10 knots, desired altitude within 100 feet, and can make takeoffs and landings with minimum instruction.

Lesson Three - Basic Instrument Flight

A. OBJECTIVES: This lesson will be conducted in an approved instrument procedures trainer in order to allow the student to practice basic IFR techniques.

B. CONTENT:

1. Straight and level
2. Climbs and descents, both airspeed and rate
3. Turns
4. Post lesson critique and assignment of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can fly desired headings with 10 degrees, maintain altitude within 100 feet, desired airspeeds within 10 knots, and can execute constant rate climbs and descents with 100 FPM of desired rate.

Lesson Four - Review and Basic IFR

A. OBJECTIVES: This lesson will be used to review those maneuvers deemed necessary by the instructor and introduce basic IFR flight to the student.

B. CONTENT:

1. Review maneuvers as necessary
2. Introduction - basic IFR flight (IR)
   a. Straight and level
   b. Climbs and descents
   c. Turns
   d. Changes in airspeed and configuration
3. Post-flight critique and assignment of next lesson
C. COMPLETION STANDARDS: This lesson will be complete when the student can perform the maneuvers reviewed unassisted by the instructor, can fly the airplane in simulated instrument conditions while performing straight and level, climbs, turns and descents while maintaining desired headings within 10 degrees, airspeeds within 10 knots and altitude within 100 feet.

LESSON FIVE - REVIEW ALL MANEUVERS AND INTRODUCE SHORT FIELD T/O’S AND LANDINGS

A. OBJECTIVES: To review all VFR maneuvers and to introduce the student to short field takeoffs and landings.

B. CONTENT:

1. Review all VFR maneuvers
2. Introduce short field takeoffs and landings
3. Post-flight critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can perform all normal VFR maneuvers to the Practical Test Standards unassisted.

LESSON SIX - GROUND SCHOOL

A. OBJECTIVES: To familiarize the student with the aircraft systems, operational limitations and use of the performance charts.

B. CONTENT:

1. Review V-speeds as taught during previous flight lessons
2. Operating limitations as outlined in the pilot handbook
3. Weight and balance
4. Use of performance charts
   a. Takeoff and landing distances
   b. Accelerate stop distances
   c. All charts necessary for flight planning
5. Post session critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student demonstrates knowledge of operational limitations, aircraft systems and can use the appropriate performance charts.

LESSON SEVEN - GROUND TRAINER

A. OBJECTIVES: This lesson will be conducted in the approved ground trainer to develop the student’s currency in instrument procedures to include VOR, NDB, ILS approaches and holding.
B. CONTENT:

1. VOR and ADF tracking
2. Holding
   a. Intersection
   b. Station
3. Approaches
   a. VOR
   b. NDB
   c. ILS
4. Post-flight critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can perform the outlined maneuvers to standards set in the Instrument Rating - Airplane Practical Test Standards.

LESSON EIGHT - INSTRUMENT PROCEDURES

A. OBJECTIVES: This lesson will be used to allow the student to perform instrument procedures practice previously in the ground trainer.

B. CONTENT:

1. VOR and ADF tracking
2. Holding
   a. Intersection
   b. Station
3. Approaches
   a. VOR
   b. NDB
   c. ILS
4. Post-flight critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can perform the outlined maneuvers to standards set in the Instrument Rating - Airplane Practical Test Standards.

LESSON NINE - GROUND SCHOOL AND GROUND TRAINER

A. OBJECTIVES: This lesson will be used to introduce the student to the emergency procedures used in the multi-engine aircraft.

B. CONTENT:

1. Principles of $V_{MC}$
2. Single-engine flight operations
3. Emergency gear extension
4. Post-session critique and assignment of the next lesson
C. COMPLETION STANDARDS: This lesson will be complete when the student can demonstrate an understanding of single-engine operations through oral quizzing and demonstration in the ground trainer.

LESSON TEN - SINGLE-ENGINE EMERGENCY PROCEDURES

A. OBJECTIVES: This lesson will be used to introduce single-engine procedures in the multi-engine airplane.

B. CONTENT:

1. Introduction
   a. Engine failure below $V_{MC}$
   b. Engine failure when committed to flight
   c. Single engine flight procedures
   d. $V_{MC}$ demonstration
2. Post-flight critique and assignment of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can demonstrate an understanding of single-engine flight operations and can maintain headings within 10 degrees, airspeed within 5 knots, and altitudes within the capability of the airplane.

LESSON ELEVEN - EMERGENCY PROCEDURES

A. OBJECTIVES: This lesson will be used to review single-engine procedures and to introduce the student to other emergency procedures.

B. CONTENT:

1. Review single-engine procedures
2. Introduction
   a. Emergency gear extension
   b. Ditching (oral)
   c. Emergency descent
3. Post-flight critique and assignment of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student demonstrates the ability to handle emergency gear extension and emergency descents, and demonstrate through oral quizzing an understanding of ditching procedures.

LESSON TWELVE - GROUND TRAINER (Single-engine IFR procedures)

A. OBJECTIVES: This lesson will be used to introduce the student to single-engine IFR procedures in the approved ground trainer.

B. CONTENT:
1. Introduction
   a. Single-engine IFR flight
   b. Single-engine IFR approaches, VOR, NDB and ILS
2. Post-lesson critique and assignment of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can perform single-engine IFR flight, to include approaches in the ground trainer to standards published in the Instrument Rating Practical Test Standards.

LESSON THIRTEEN - SINGLE-ENGINE IFR

A. OBJECTIVES: This lesson will be used to develop the student’s ability to fly single-engine IFR procedures to standards published in the Instrument Rating - Airplane Practical Test Standards.

B. CONTENT:

   1. Introduction
      a. Single-engine IFR flight
      b. Single-engine IFR approaches, VOR, NDB and ILS
   2. Post-lesson critique and assignment of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can perform single-engine IFR standards published in the Instrument Rating - Airplane Practical Test Standards.

LESSON FOURTEEN - REVIEW

A. OBJECTIVES: This lesson will be used to review all areas of training necessary for the issuance of a Multi-engine class rating.

B. CONTENT:

   1. Review
      a. VFR maneuvers as outlined in the Practical Test Standards
      b. IFR maneuvers as outlined in the Practical Test Standards
   2. Post-flight critique and assignment of next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student meets the standards as published in the Multi-engine Airplane Practical Test Standards.

LESSON FIFTEEN - STAGE CHECK

A. OBJECTIVES: This lesson will be used by the chief instructor or assistant instructor to conduct the stage check for the issuance of the graduation certificate from the flight course.

B. CONTENT:

   1. Stage check written
   2. Stage check flight
C. COMPLETION STANDARDS: This lesson will be complete when the student passes the stage check written, and can perform the maneuvers as required in the appropriate Practical Test Standards used for the issuance of the Airplane Multi-engine Class Rating with Instrument privileges.