I. INTRODUCTION

A. This training course outline covers phase one of three phases in the curriculum requirements for the commercial certification course contained in Appendix D of FAR 141 (revised).
B. The flight training syllabus contains only flight training which will be conducted at the Killeen Municipal Airport- building 1315.
C. The flight training will consist of 19 hours of dual instruction, 6 of which is in an approved around trainer and 30 hours of solo flight of which 25 hours is solo cross-country.
D. The associated ground school will be taught at Central Texas College on campus
E. See Appendix II of this syllabus for a listing of aircraft, training aids, facilities, and instructor qualifications

II. ENROLLMENT PREREQUISITES

A. The student must hold a private pilot certificate with airplane single-engine category and class ratings and hold a current class II medical.
B. Have satisfactorily completed or be concurrently enrolled in AIRP 1341 - Advanced Air Navigation Ground School course.
C. The student must be issued a certificate of enrollment.

III. OVERALL OR GENERAL OBJECTIVES OF THE COURSE

The student will be instructed in basic VFR flight maneuvers as well as the maneuvers and procedures leading to navigation by reference to the flight instruments which are required by FAR for the issuance of an instrument rating on their pilot certificate.

IV. INSTRUCTIONAL MATERIALS

The instructional materials identified for this course are viewable through www.ctcd.edu/books

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V. COMPLETION STANDARDS AND COURSE REQUIREMENTS

At the completion of this course the student should show satisfactory proficiency in basic VFR flight maneuvers to Private Pilot Standards, proficiency in basic attitude instrument fly maneuvers and show an understanding of VOR and ADF navigation, be able to communicate with ATC facilities, and be able to execute VFR cross-country flights with a high degree of precision.

STAGE I - DUAL AND SOLO

STAGE ONE OBJECTIVES: The student will be given the training and practice necessary to conduct VFR cross-country flights with a high degree of precision, conduct flight by reference to instruments to include basic instrument flight maneuvers, partial panel, VOR and ADF navigation, and to communicate with ATC facilities.

STAGE ONE COMPLETION STANDARDS: This stage will be complete when the student has satisfactorily completed all the lessons and has satisfactorily completed the Stage Check written and flight checks.

FLIGHT LESSON 25: Dual

A. OBJECTIVES: This lesson will be used by the instructor to review all upper air work to include minimum controllable airspeed, stalls, power on and off, steep turns, a review of take-off’s and landings, and a checkout of the local area.

B. CONTENT
1. Preflight discussion
2. Review
   a. Take-offs and landings
   b. Minimum controllable airspeed
   c. Stalls, power on and off
   d. Steep turns
   e. Local area operations
   f. VOR and ADF tracking
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student can perform the reviewed maneuvers to Private Pilot Standards and demonstrates an understanding of local operations.

FLIGHT LESSON 26: Solo (Local)

A. OBJECTIVES: This lesson will be used by the student to practice those maneuvers.

AIRP 1255
assigned by the instructor to increase the student's level of precision.

B. CONTENT:
   1. Preflight discussion
   2. Review of assigned maneuvers
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates through oral quizzing a higher degree of understanding of the techniques required to achieve precise aircraft control.

FLIGHT LESSON 27: Dual

A. OBJECTIVES: This lesson will be used to review basic attitude instrument flying, preflight check of the IFR instruments, short and soft field take-off and landings, and slips to a landing

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. Basic attitude instrument flying
         (1) Preflight check of the IFR instruments
         (2) Straight and level
         (3) Timed turns
         (4) Climbs and descents (airspeed and rate)
         (5) Partial panel
         (6) Unusual attitude recovery
      b. Short and soft field take-offs and landings
      c. Slips to a landing
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student can control the airplane by reference to instruments while maintaining altitudes within 50 feet, airspeeds within 10 kts, and headings within 10 degrees; the student should meet Private Pilot standards for unusual attitude recovery and short and soft field take-off’s and landings and slips to a landing.

FLIGHT LESSON 28: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to allow the student to increase cross-country experience by planning and executing a VFR cross country training flight using the VOR, pilotage and dead reckoning navigation.
B. CONTENT:
1. Preflight discussion
2. Review
   a. Developing a Cross-country navigation log.
   b. Developing and filing a FAA Flight Plan
   c. Using the developed cross-country navigation log to keep track of the progress of the flight.
3. Post-flight discussion and review of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student shows an increased knowledge of VFR flight planning by showing the completed navigation log to the instructor and through discussion and the navigation log demonstrates an increased ability to plan and fly a precise VFR cross country.

FLIGHT LESSON 29: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used by the instructor to practice basic attitude instrument flying skills in an approved ground trainer.

B. CONTENT:
1. Preflight discussion
2. Review
   a. Straight and level
   b. Climbs and descents
   c. Timed turns
   d. Compass turns
   e. Pattern A&B
3. Post-flight discussion and preview of the next lesson.

C. COMPLETION STANDARDS: This lesson is complete when the student can maintain headings within 10 degrees, altitudes within 50 feet, and airspeeds within 10 kts.

FLIGHT LESSON 30: Dual

A. OBJECTIVES: This lesson will be used by the instructor to review basic instrument flight and to introduce airspeed and configuration changes while controlling the aircraft by reference to instruments.

B. CONTENT
1. Pre-flight discussion
2. Review basic attitude instrument flight
   a. Straight and level
   b. Timed turns
c. Compass turns

d. Pattern A & B

e. Partial Panel

f. Unusual attitude recovery

3. Introduction

a. Minimum controllable airspeed using only the flight instruments

b. Stalls, power on and power off using only the flight instruments

4. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student can perform all the maneuvers while maintaining airspeeds within 10 kts, altitudes within 50 feet, and headings within 10 degrees.

FLIGHT LESSON 31: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to allow the student to continue developing VFR cross country navigation skills.

B. CONTENT:

1. Pre-flight discussion

2. Review

a. Developing and using a VFR cross-country navigation log

b. Developing and filing an FAA Flight Plan

3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an increased ability to develop, use, and complete a VFR navigation log, and can execute a VFR cross country while arriving at pre-de terminated check points within 5 minutes of the time shown on the navigation log.

FLIGHT LESSON 32: Solo (Cross-country)

A. OBJECTIVE: This lesson will be used to allow the student to continue to develop skills used in VFR navigation.

B. CONTENT:

1. Pre-flight discussion

2. Review

a. Development and use of a VFR navigation log

b. Use of VOR for navigation

c. Development and filing of an FAA VFR flight plan

3. Post-flight discussion and preview of the next lesson

C. Completion STANDARDS: This lesson will be complete when the student develops and
uses a navigation log for planning and executing a VFR cross-country using the VOR for navigation on all legs of the flight.

FLIGHT LESSON 33: Dual

A. OBJECTIVES: This lesson will be used to continue the student's training toward the instrument rating with a review of basic flight maneuvers and an introduction to VOR navigation in instrument flight conditions.

B. CONTENT:

1. Pre-flight discussion
2. Review of basic IFR maneuvers as selected by the instructor
3. Introduction to VOR navigation
   a. Principles of VOR operation
   b. Tuning and identifying VOR stations
   c. VOR tracking
   d. Time, speed, and distance computations
4. Post-flight discussion and preview of the next lesson

C. This lesson is complete when the student can fly the basic IFR flight maneuvers to Instrument Rating Practical Test Standards and demonstrates an understanding of VOR operation and can tune in, identify, and track a selected VOR radial without assistance from the instructor.

FLIGHT LESSON 34: Solo (Local)

A. OBJECTIVES: This lesson will be used by the student to practice VFR maneuvers designed to increase skill at precision flying.

B. CONTENT:

1. Pre-flight discussion
2. Review
   a. Short and soft field take-offs and landings
   b. Flight at minimum controllable airspeed
   c. Stalls, power on and power off
   d. Ground reference maneuvers
      (1) Rectangular patterns
      (2) S-turns across a road
      (3) Turns about a point
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates
through oral quizzing a higher degree of understanding of the maneuvers assigned.

FLIGHT LESSON 35: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to continue precision navigation practice using the VORs and Victor airways.

B. CONTENT:
   1. Pre-flight discussion
   2. Review
      a. Preparation and use of a VFR navigation log incorporating Victor airways
      b. Preparing and filing an FAA Flight plan
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates through oral quizzing and preparation of a VFR navigation log an understanding of VOR navigation and the use of Victor airways for navigation.

FLIGHT LESSON 36: Dual

A. OBJECTIVES: This lesson will be used to review VOR navigation and to introduce the student to ADF navigation in instrument flight conditions.

B. CONTENT:
   1. Pre-flight discussion
   2. Review VOR navigation
   3. Introduce use of the ADF for navigation
      a. Principles of operation
      b. Homing
      c. Tracking
   4. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student can maintain a centered CDI needle on the VOR consistently, and demonstrates an increased understanding of ADF/NDB operations.

FLIGHT LESSON 37: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to allow the student to increase skill at flying a VFR cross-country while using the Victor airways as well as the ADF for navigation. One leg will be completed using the ADF for navigation

B. CONTENT:
   1. Pre-flight discussion
2. Review
   a. Preparation and use of a VFR cross-country navigation log
   b. VOR navigation using victor airways
3. Introduction of the AD receiver for navigation
4. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates through oral quizzing a greater understanding of using the ADF receiver for navigation and a greater precision of using the VOR for navigation.

FLIGHT LESSON 38: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used to allow the student practice using the VORs and ADF receivers for navigation.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. VOR navigation
      b. ADF navigation
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an increased skill at using the VOR and ADF for navigation.

FLIGHT LESSON 39: Solo (Local)

A. OBJECTIVES: This lesson will be used to allow the student to increase skill levels at steep turns and precision landings, attempting to land within 200 feet of a pre-determined spot on the runway.

B. CONTENT:
   1. Pre-flight discussion
   2. Review
      a. Steep turns
      b. Short and soft field take-off’s and landings
      c. Accuracy in all maneuvers
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates through oral quizzing a higher degree of understanding of the techniques involved in flying with precision.
FLIGHT LESSON 40: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used to review VOR and ADF navigation and to introduce VOR and NDB approaches and VOR holding to the student.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. VOR navigation
      b. ADF navigation
   3. Introduction
      a. ATC Clearance
      b. VOR holding
      c. VOR approach
      d. NDB approach
      e. Missed approach procedures
   4. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an increase ability to use the VOR and ADF for navigation and through oral quizzing demonstrates an understanding of VOR holding and VOR and NDB approaches.

FLIGHT LESSON 41: Dual

A. OBJECTIVES: This lesson will be used to practice VOR holding, VOR and NDB approaches.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. ATC clearances
      b. VOR holding
      c. VOR approach
      d. NDB approach
      e. Missed approach procedures
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student can enter holding, fly a VOR and NDB approach while maintaining airspeeds within 10 kts, headings within 10 degrees, and altitudes within +50 feet without going below minimum altitudes.

FLIGHT LESSON 42: Solo (Cross-Country)
A. OBJECTIVES: This lesson will be used to allow the student practice in flying a solo cross-country and working ATC facilities at a major airport to include approach control, tower, and ground controls.

B. CONTENT
1. Pre-flight discussion
2. Review
   a. Preparation and use of a VFR navigation log
   b. Use of victor airways and ADF for navigation
   c. Preparation and filing of an FAA flight plan
3. Introduction- using ATC facilities at a major airport
4. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student plans and flies a VFR cross-country to a major airport with approach control, tower, and ground control facilities and can demonstrate through oral quizzing an understanding of correct radio phraseology, ATC functions, and ATC procedures for the control of VFR flights.

FLIGHT LESSON 43: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to finish the required solo cross-country requirements for this course and to allow the student to practice those parts of VFR navigation the instructor feels need improvement on the student's part.

B. CONTENT
1. Pre-flight discussion
2. Review
   a. Preparation and use of a VFR navigation log
   b. Preparing and filing an FAA VFR flight plan
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student has finished all the solo cross-country requirements for the course and demonstrates through oral or written quizzing a greater understanding of VFR navigation.

FLIGHT LESSON 44: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used by the instructor to continue the student's familiarization of VOR holding, VOR and NDB approaches, and a review of basic IFR flight maneuvers.

B. CONTENT
1. Pre-flight discussion
2. Review
a. Basic IFR flight maneuvers
   (1) Partial panel
   (2) Vertical-S
   (3) Pattern A & B
   (4) Fight at minimum controllable airspeed
b. ATC clearances
c. VOR holding
d. VOR and NDB approaches

C. COMPLETION STANDARDS: This lesson is complete when the student can perform the desired maneuvers to the minimum standards set forth in the Instrument Rating Practical Test Standards

FLIGHT LESSON 45: Dual

A. OBJECTIVES: This lesson will be used to prepare the student for the stage check by reviewing areas found weak in previous lessons.

B. CONTENT
   1. Pre-flight discussion
   2. Review of selected maneuvers
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an increase performance level in the selected maneuvers as determined by the instructor.

FLIGHT LESSON 46: Solo (Local)

A. OBJECTIVES: This lesson will be used by the student to finish the local solo time in the course and to practice those maneuvers assigned by the instructor to prepare for the stage check.

B. CONTENT
   1. Pre-flight discussion
   2. Review of selected maneuvers
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student has finished the local solo time allotted for the course and has reviewed the maneuvers as assigned by the instructor.

FLIGHT LESSON 47: Dual
A. OBJECTIVES: This lesson will be used by the instructor to review the maneuvers to be covered on the final stage check.

B. CONTENT
   1. Pre-flight discussion
   2. Review
      a. Pre-flight check of the IFR flight instruments
      b. Short and soft field take-offs and landings
      c. Minimum controllable airspeed
      d. Stalls, power on and power off
      e. Basic IFR flight
         (1) Straight and level, turns, climbs, descents
         (2) Partial panel, compass turns, unusual attitudes
         (3) Minimum controllable airspeed, stalls
      f. ATC clearances
      g. VOR tracking, holding, VOR approach
      h. NDB tracking and approach
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates the ability to fly the VFR maneuvers to greater than private pilot standards and can fly the IFR maneuvers to the minimum standards set forth in the Instrument Pilot Practical Test Standards.

FLIGHT LESSON 48: DUAL STAGE CHECK

A. OBJECTIVES: This lesson will be used by the chief instructor or the assistant chief flight instructor to administer the stage check written and flight checks to determine the student meets the objectives of the flight course.

B. CONTENT
   1. Preflight discussion
   2. Stage check
      a. Pre-flight clearances
      b. VOR tracking check of instruments
      c. ATC, holding, and approaches
      d. ADF tracking and approaches
      e. Partial panel and unusual attitudes
      f. VFR maneuvers
         (1) Minimum controllable airspeed
         (2) Stalls, power on and off
         (3) Short and soft field take-offs and landings
   3. Post-flight discussion
C. COMPLETION STANDARDS: This lesson is complete when the student meets the minimum standards set for in the Instrument Practical Test Standards for the IFR maneuvers and flies the VFR maneuvers to a high standard than those set forth in the Private Pilot Practical test Standards.