I. INTRODUCTION

A. This training course outline covers phase two of three phases in the curriculum requirements for the commercial certification course contained in Appendix D of FAR 141.

B. The flight training syllabus contains only flight training which will be conducted at the Killeen Municipal Airport CTC Hangar

C. The flight training will consist of 33 hours of dual instruction, 10 of which is in an approved around trainer and 25 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 category and a Class II Medical.

B. The student must have a minimum of 95 hours of which 25 were solo cross country since the Private Pilot certificate and 20 hours of instrument instruction, of which not more than 10 was in an approved ground trainer.

C. Have satisfactorily completed or be concurrently enrolled in the Instrument Ground School course.

D. The student must be issued a certificate of enrollment.

III. OVERALL OR GENERAL OBJECTIVES OF THE COURSE

The student will receive training which will meet the requirements of the Federal Aviation Regulations that are established for the issuance of an instrument rating to be added to a pilot certificate with an airplane category.

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IV. INSTRUCTIONAL MATERIALS

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

V. ADA STATEMENT- DISABILITY SUPPORT SERVICES

Disability Support Services provide services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Explore the website at www.ctcd.edu/disability-support for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

VI. COMPLETION STANDARDS AND COURSE REQUIREMENTS

At the completion of this course the student will have satisfactorily completed all stages and received the required training established by the Federal Aviation Regulations for the issuance of an Instrument Rating to be added to a pilot certificate with an airplane category and meet the standards for that rating as established by the Instrument Rating (Airplane) Practical Test Standards.

STAGE I - DUAL AND SOLO

STAGE ONE OBJECTIVES: This stage will be used to allow the student to receive additional training toward the requirements for the issuance of an instrument rating to be added to a pilot certificate with an airplane category.

STAGE ONE COMPLETION STANDARDS: This stage will be complete when the student has acquired the experience requirements and instruction requirements set forth in the Federal Aviation Regulations for the issuance of an instrument rating and can pass the final stage check.

FLIGHT LESSON 49: Dual

A. OBJECTIVES: This lesson will be used to review ATC procedures, preflight check out of the instruments, and the VOR and NDB approaches and a checkout in the aircraft.

B. CONTENT
   1. Preflight discussion
   2. Review
      a. Preflight check of the instruments
      b. ATC Procedures

AIRP 2250
c. ATC Clearances

d. Area Departures

e. Basic IFR maneuvers
   1. Climbs and descents
   2. Turns
   3. Straight and Level

f. Basic VFR maneuvers
   1. Minimum controllable airspeed
   2. Stalls - power on and off
   3. Take-offs and landings

g. VOR and NDB approaches

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

C. COMPLETION STANDARDS: This lesson will be complete when the student demonstrates competence in using ATC facilities, can execute VOR and NDB approaches with little assistance from the instructor.

FLIGHT LESSON 50: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to increase the student’s VFR cross-country experiences by allowing the student to plan a VFR cross-country using victor airways to an airport with approach control, tower and ground control facilities with an en route stop at an uncontrolled airport.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. Developing and using a VFR navigation log
      b. Use of Victor Airways for navigation
      c. Use of ATC facilities at a controlled airport
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student plans a VFR cross country using Victor airways, flies the trip as planned, and can demonstrate through the navigation log the ability to reach checkpoints within 3 minutes of the planned time

FLIGHT LESSON 51: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used to introduce the student to NDB holding, the DME arc as used in conjunction with a VOR approach and localizer approach.

B. CONTENT:
   1. Preflight discussion
   2. Introduction
a. NDB holding
b. Use of DME to fly a DME arc and execute a VOR approach
c. Localizer approaches - Front and Back courses
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an understanding of NDB holding, use of DME to fly and arc and execute a VOR approach, and the ability to fly a localizer approach.

FLIGHT LESSON 52: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to allow the student to increase cross-country proficiency and experience by planning and flying a VFR cross country using Victor airways to an airport with ATC facilities.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. Developing and using a VFR navigation log to fly a VFR cross country using victor airways.
      b. Preparing and filing an FAA flight plan
   3. Post-flight discussion and review of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student prepares and uses a VFR navigation log and through oral quizzing demonstrates a thorough understanding of ATC procedures at major airports.

FLIGHT LESSON 53: Dual

A. OBJECTIVES: This lesson will be used to practice those procedures introduced in lesson fifty-one to include NDB holding, DME arc to a VOR approach and localizer approaches - front and back courses.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. Use of ATC facilities to receive a local IFR clearance
      b. NDB holding
      c. DME Arc for a VOR approach
      d. Localizer approaches - front and back
   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 listed procedures to the standards set forth in the Instrument Rating
FLIGHT LESSON 54: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to allow the student to use low altitude en route charts in conjunction with VFR charts to plan a cross-country that uses both VHF and LF radio aids for navigation. THE STUDENT WILL REMAIN VFR AT ALL TIMES

B. CONTENT
   1. Pre-flight discussion
   2. Review basic attitude instrument flight
      a. Use fo charts to develop a cross-country navigation log
   3. Introduction of the use of LF radio aids for VFR navigation
   4. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates through the use and explanation of low altitude en route charts, and uses LF radio aids for VFR navigation.

FLIGHT LESSON 55: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used to introduce the student to ILS approaches as well as intersection holding.

B. CONTENT:
   1. Pre-flight discussion
   2. Review
      a. VOR navigation
      b. VOR holding
   3. Introduction
      a. Intersection holding
      b. ILS approaches
   4. Postflight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates an understanding of ILS approaches as well as intersection holding.

FLIGHT LESSON 56: Dual (Cross-country)

A. OBJECTIVE: This lesson will be used to introduce the student to en route facilities and procedures by planning and flying a small IFR cross-country to a major airport within 75NM of the home airport.
B. CONTENT:
1. Pre-flight discussion
2. Review
   a. ATC procedures
   b. VOR and/or LF navigation
   c. ILS approach
3. Introduction
   a. Planning an IFR cross-country flight
   b. Developing and using an IFR cross-country navigation log
   c. Developing and filing an FAA IFR flight plan
   d. Use of ATC en route facilities
4. Postflight discussion and preview of the next lesson

C. Completion STANDARDS: This lesson will be complete when the student has demonstrated the ability to plan an IFR cross-country flight, can develop and use an IFR navigation log, and can use the appropriate ATC facilities for IFR flight.

FLIGHT LESSON 57: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to continue to allow the student to practice VFR cross country procedures and to practice using low altitude en route chart in conjunction with VFR charts to plan and fly a VFR cross country flight.

B. CONTENT:

1. Pre-flight discussion
2. Review
   a. Use of IFR and VFR charts to plan a VFR cross country
   b. Development and use a VFR navigation log
   c. Preparation and filing of an FAA flight plan
3. Postflight discussion and preview of the next lesson

C. This lesson is will be complete when the student has demonstrated through oral quizzing and the completed navigation log that the objectives have been met.

FLIGHT LESSON 58: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used to review those areas found weak during the short IFR cross country as well as a review of the use of DME arcs in conjunction with approaches.

B. CONTENT:

1. Pre-flight discussion
2. Review
a. ATC procedures
b. Intersection holding
c. DME arcs used with approaches
d. Back-course localizer approach
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson will be complete when the student can perform the designated IFR operations with little instruction from the instructor and can maintain headings with 10 degrees, altitudes within 100 feet and designated airspeeds within 10 knots.

FLIGHT LESSON 59: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to allow the student to plan a VFR cross country to an airport located with Class B airspace or equivalent airspace.

B. CONTENT:
   1. Pre-flight discussion
   2. Review
      a. ATC procedures
      b. Planning and developing a VFR cross country navigation log
      c. 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 showing the instructor the completed flight log and through oral quizzing demonstrates an understanding of VFR procedures in a Class B or equivalent airspace.

FLIGHT LESSON 60: Dual

A. OBJECTIVES: This lesson will be used to review those procedures the instructor feels the student needs most to prepare for the IFR cross country flight required by FAR for the issuance of an Instrument Rating on a pilot certificate with an airplane category.

B. CONTENT:
   1. Pre-flight discussion
   2. Review
      a. Use of local ATC facilities to receive and follow an IFR clearance
      b. Selected IFR procedures
         1. VOR and LF navigation
         2. Holding
         3. Approaches
   3. Post-flight discussion and preview of the next lesson
C. COMPLETION STANDARDS: This lesson is will be complete when the student demonstrates an increased ability to fly in the controlled airspace using the appropriate ATC facilities, fly the selected IFR procedures with limited instruction and maintains airspeed, altitudes and headings to practical test standards.

FLIGHT LESSON 61: Solo (Cross-country)

A. OBJECTIVES: This lesson will be used to complete the solo cross country requirements established by the FAR for the issuance of an Instrument Rating to be added to a pilot certificate with an airplane category.

B. CONTENT:
   1. Pre-flight discussion
   2. Review
      a. Preparation and use of a VFR cross-country 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 is complete when the student has flown the cross country flights outlined in this TCO and has acquired 50 hours of solo cross country time since the issuance of the Private Pilot certificate.

FLIGHT LESSON 62: Dual (Ground Trainer)

A. OBJECTIVES: This lesson will be used to practice the first two legs of the IFR cross country required by FAR’s for the issuance of an Instrument Rating to the student’s pilot certificate. The instructor will act as the controller.

B. CONTENT:
   1. Preflight discussion
   2. Review
      a. IFR cross country flight planning
      b. ATC procedures and clearances
      c. En route navigation and communications
      d. VOR and NDB approaches
   3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student has planned and developed the IFR navigation log of the IFR cross country that will be used to meet the requirements of the FAR’s and has flown the first two legs of the trip in an approved ground trainer capable of using the same navigation aids as will be used on the actual flight.

FLIGHT LESSON 63: Dual (Ground Trainer)

AIRP 2250
A. OBJECTIVES: This lesson will be used to finish the simulated IFR cross country to be used to meet the requirements for the issuance of an Instrument Rating on the student’s pilot certificate.

B. CONTENT:
1. Pre-flight discussion
2. Review
   a. IFR cross country procedures
   b. Intersection holding
   c. Use of DME arc in conjunction with an ILS approach
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student uses the ground trainer to finish the simulated IFR cross country flight that will be used to meet the requirements established by the FAR for the issuance of an Instrument rating on the student’s pilot certificate.

FLIGHT LESSON 64: Dual (Cross Country)

A. OBJECTIVES: This lesson will be used to meet the dual IFR cross country requirements established by the FAR’s for the issuance of an Instrument rating to be added to the student’s pilot certificate.

B. CONTENT:
1. Preflight discussion
2. Review
   a. Developing and using an IFR navigation log
   b. Preparing and filing an FAA IFR flight plan
   c. Receiving and using an ATC IFR clearance
   d. IFR cross country procedures to three different airports with three different approaches.
3. Post-flight discussion and preview of the next lesson

C. COMPLETION STANDARDS: This lesson is complete when the student has met the IFR cross country requirements established by the FAR’s and the instructor feels the student can competently fly IFR in controlled airspace.

FLIGHT LESSON 65: Dual

A. OBJECTIVES: This lesson will be used by the instructor to review those areas deemed necessary for the student to pass an instrument check ride.

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

C. COMPLETION STANDARDS: This lesson is complete when the student demonstrates all the maneuvers in the Instrument Rating - Airplane Practical Test Standards and meets the minimum standards set forth in that publication.

FLIGHT LESSON 66: Dual STAGE CHECK

A. OBJECTIVES: This lesson will be used by the Chief Instructor or an Assistant Chief Instructor to conduct the final stage check for the Instrument Rating - Airplane. This check will consist of a written exam as well as a flight check.

B. CONTENT
   1. Instrument Stage Check written exam
   2. Preflight discussion
   3. Stage Check flight will be conducted using the Instrument Rating practical test standards.

C. COMPLETION STANDARDS: This lesson is complete when the student has passed the stage check written exam with a minimum grade of 70 and has performed the maneuvers as outlined in the Instrument Rating Practical Test Standards and meets the minimums outlined in that publication.