



## Arapahoe Flight Club

Colorado Springs, CO.

### INSTRUMENT RATING - SINGLE ENGINE LAND

Additional Aircraft Add-on

### COURSE SYLLABUS

Revision 1

30 January, 2020

### **COURSE DESCRIPTION**

This training syllabus is designed to meet all the curriculum requirements for Instrument rating add-on – Single Engine per Part 61.65 Instrument Rating Requirements. The flight lessons are designed to Airman Certification Standards and cover 15.4 hours in 8 lessons to include 20 hours of ground training. The flight lesson plan is summarized below:

<b>FLIGHT LESSON HOUR SUMMARY</b>		
<b>Flight Lesson</b>	<b>Dual</b>	<b>Dual Cross Country</b>
1	1.7	
2	1.7	
3	1.7	
4	1.7	
5	1.7	
6	3.5	3.5
7	1.7	
8	1.7	
<b>Total</b>	<b>15.4</b>	<b>3.5</b>

## **OBJECTIVE**

The lesson plans are designed to quickly and efficiently prepare the student for an instrument rating add-on for single engine airplane. The Completion standards will be to ACS standards and by the end of the course, the student will have completed the following requirements:

1. 250 NM cross country flight with one segment of 100 NM straight distance.
2. One instrument approach at each airport.
3. Three different kinds of approaches using navigational aids.

## **COURSE ELIGIBILITY**

To be eligible for enrollment the student must hold a current Private Pilot certificate with a minimum of single engine airplane rating. Additionally, the student must already have an instrument rating in a helicopter or powerlift aircraft. Lastly, the pilot must have at least a Third Class medical certificate within the first two weeks of training.

### **Flight Lesson #1                      Introduction to Instrument Flight                      Dual 1.7 Hours**

**OBJECTIVE:** The student pilot will be introduced to Preflight preparations including Pilot qualifications, Weather information, Airplane systems related to IFR operations and Airplane flight instruments and navigation equipment. The student pilot will be introduced to instrument flight deck checks and instrument flight and will perform the following maneuvers to get use to the aircraft and its performance:

- Turns
- Climbs
- Descents with or without flaps
- Steep Turns
- Slow Flight with or without flaps with no more than a 10 degree bank in both directions
- Power on and Power off Stalls
- Unusual Attitude Recovery
- ILS Approach

COMPLETION: The student pilot will be able to maintain aircraft control in basic simulated instrument flight. Recovery from stalls and unusual attitudes will be accomplished with correct technique and aircraft control. Completion of the ILS approach will be to the missed approach point or to landing.

## **Flight Lesson #2**

**Dual 1.7 Hours**

OBJECTIVE: The student pilot will gain proficiency in the elements of the previous flight and be introduced to further instrument maneuvers. The student pilot will perform the following maneuvers:

- VOR Intercept and Tracking
- Holds
- Partial Panel Turns to headings
- Climbs
- Descents with or without flaps
- Unusual Attitude Recovery
- ILS Approach

COMPLETION: The student pilot will be able to maintain altitude + or – 100 feet during level flight, selected headings within + or -10 degrees, airspeed + or-10 knots, and bank angles + or -5 degrees during turns. Intercept and track radials inbound and outbound on VOR radials. The student will demonstrate the correct entry into holding patterns from various directions compensating for winds and demonstrate competency in calculating the times in the hold. During recovery from unusual attitudes the use of proper instrument cross-check and interpretation to identify an unusual attitude (including both nose high and nose-low), and apply the appropriate pitch, bank, and power corrections, in the correct sequence, to return to a stabilized level flight attitude. Partial panel turns will be done with proper technique and aircraft control. ILS will be accomplished to demonstrate knowledge of the procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in case of inoperative equipment.

### **Flight Lesson #3**

**Dual 1.7 Hours**

**OBJECTIVE:** The student pilot will gain proficiency in the element of the previous flights and be introduced to other approaches.

- Localizer Approach
- Missed Approach
- ILS Approach
- GPS Approach

**Completion:** The student pilot will be able to correctly brief the approach prior to entry and identify Missed approach point and conduct a full missed approach. Localizer, ILS, GPS approaches will be loaded and the correct procedures and communications will be conducted during the approach. Maintain altitude + or – 100 feet, selected heading + or -10 degrees, airspeed +or – 10 knots, and accurately track radials, courses, and bearings, prior to beginning the final approach segment.

### **Flight Lesson #4**

**Dual 1.7 Hours**

**OBJECTIVE:** The student pilot will gain proficiency in the element of the previous flights and will continue to build proficiency on precision and non-precision approaches.

- VOR Approach
- ILS Approach
- GPS Approach
- Circle to Land

**COMPLETION:** The student pilot will be able to conduct the precision and non-precision approaches to the Airman Certification Standards for Instrument Airplane

### **Flight Lesson #5**

**Dual 1.7 Hours**

**OBJECTIVE:** The student pilot will gain proficiency in the element of the previous flights and be reintroduced to partial panel operations.

- Localizer Partial Panel
- GPS Partial Panel
- ILS Approach

**COMPLETION:** The student pilot will be able conduct partial panel approaches to landing with in Airman Certification Standards for Instrument Airplane

**Flight Lesson #6** **Cross Country** **Dual 3.5 Hours**

**OBJECTIVE:** The student pilot will plan and execute a **250 NM cross country flight** with one leg being at least **100 NM in distance**.

**Flight Lesson #7** **Instructor Recommendation** **Dual 1.7 Hours**

**OBJECTIVE:** The student pilot will be reviewed by the instructor to be recommended for the Final Stage Check with the Chief Flight Instructor. This flight lesson requires the student to perform all maneuvers required for the FAA check ride per FAA-S-8081-4E (Instrument Rating Practical Test Standards).

**Flight Lesson #8** **Final Stage Check** **Dual 1.7 Hours**

**OBJECTIVE:** The pilot will perform a final stage check with the club's Chief Flight Instructor in order to ensure the student is ready for the final FAA check ride. During this flight, the student will perform all maneuvers required on the final check ride, to include one non-precision approach and one precision approach.