

**Single-engine IFR Proficiency Course**

1. A pilot may enroll for Single-engine IFR Proficiency training, provided they hold a private pilot certificate, commercial pilot certificate, ATP certificate, ICAO recognized license.
2. Holds an instrument airplane rating or an ATP certificate with an airplane rating.
3. Holds an airplane multiengine land rating.
5. Meets the recent flight experience requirements of 61.57 (a) (1) for take off and landings in the preceding 90 days. \*

**Description of Course:** The Multi-engine IFR Proficiency Course is scheduled for two days and consist of the following minimum programmed hours:

Classroom training .....	7 .0
FTD training.....	6.0
Post/Preflight Brief.....	1.0

**Course Objectives:**

Upon the completion of this course, the pilot will have the necessary knowledge and skills to demonstrate that he/she meets the requirements of FAR 61.56(e) for the Flight Review, 61.57(c)(i-iii) for recent Flight Experience – Instrument, and 61.57(d)(1) for the Instrument Proficiency Check will be met. The student will review multi-engine aircraft systems, the use of the systems, controls, normal and abnormal procedures for the aircraft.

**1. Classroom Training**

**General Operating Subjects –6 hours**

**A. Standard Operating Procedures.**

1. Objectives
2. Departure S.O.P.s (Take-off Planning Single and Multi-Engine)
3. Enroute S.O.P.s
4. Arrival S.O.P.s
5. Approach Chart Review
6. Altitude Calls
7. Landing S.O.P.s
8. Checklist Usage

\* The prerequisite for 61.57 (a) (1) are not required if 61.56 (e) will not be issued.

**B. Low Visibility Approaches**

1. Objectives
2. Requirements For Descending Below MDA or DH
3. Flight Visibility VS. Surface Visibility
4. Ceiling Reports
5. Precision VS. Non-Precision Approaches
6. Lights, Pavement, Paint
7. Normal Descent Rates and Maneuvers
8. The Missed Approach

**C. ATC and Emergencies**

1. Objectives
2. ATC's and FAA's Role in Reporting Emergencies
3. Where To Go in an Emergency
4. When to Declare an Emergency
5. Maximizing ATC's Assistance

**D. Weather Avoidance**

1. Objectives
2. Order and Methods
3. Pre-Flight Weather Briefing
4. Radar Summaries
5. Ground and Airborne Weather Radar
6. Turbulence Probability Chart
7. Conclusion

**E. FAR's 61 & 91**

1. Recency of experience
2. Pilot privileges
3. Pilot logbooks
4. General operating and flight rules
5. VFR requirements
6. IFR requirements

**Completion Standard**

The student will have completed this lesson by achieving a score of 70% or better on each end of lesson test and corrected it to 100%

**Aircraft Systems Review****2 hours**

1. Use of Pilots Operating Handbook
2. Limitations
  - a. Airspeed Limitations
  - b. Engine Limitations
  - c. Weight Limits
  - d. Maneuver Limits
  - e. Flight Load Factor Limits
  - f. Flight Crew Limits
  - g. Operation Limits
  - h. Fuel Limitations

- i. Required Placards
- 3. Powerplant
  - a. Engine Controls
  - b. Engine Oil System
  - c. Ignition System
  - d. Fuel Injection System
  - e. Cooling System
  - f. Induction Air
  - g. Engine Instruments
  - h. Turbo-System
  - i. Propeller System
- 4. Landing Gear
  - a. Position Lights
  - b. Warning Horn
  - c. Manual Extension
- 5. Flight Controls
  - a. Aileron & Rudder System
  - b. Elevator System
  - c. Elevator Trim System
  - d. Wing Flap System
- 7. Electrical System
  - a. Battery
  - b. Alternators
  - c. Monitoring instruments
  - d. Circuit Breakers
  - e. External Power Receptacle
  - f. Lighting System
- 8 Fuel System
  - a. Main Tanks
  - b. Fuel Selectors
  - c. Auxiliary Fuel Pump Switches
- 9. Pneumatic System
  - j. Pitot Static System
  - k. Vacuum System
  - l. Flight Instruments
  - m. Suction Gauge
- 10 Use of Performance Charts
  - n. Take-off distance
  - o. Cruise performance
  - p. Landing Distance
- B. Weight and Balance
  - a. Basic Empty Weight
  - b. Useful Load Weights
  - c. CG Limits vs. Weight
- C. Flight Planning
  - a. Fuel Requirements

### **Completion Standard**

Completion Standards. This lesson will be successfully completed when, by oral examination the student displays a basic understanding of the aircraft systems and instruments.

## Flight Training Device FTD Lessons

### Lesson 1

2 Hours

**Objective:** Introduce student to simulator. Demonstrate and teach normal procedures and use of checklist for FTD.

Preflight discussion

Before Starting Engines Checks

- a. Airspeeds for Safe operation
- b. Electrical System Checks
- c. Fuel Quantity & Selectors
- d. Landing Gear Handle & Lights

Normal Engine Start

Before Taxi Checks

- a. Aux Fuel Pump
- b. Charging Instruments Checked
- c. Vacuum System Check
- d. Lights
- e. Flight Instruments

Before Take-off

- a. Engine Runup
- b. Trim set
- c. Flaps set

Maneuvers:

Normal Take-off

- (a) Climb ( power settings)
- (b) Straight and Level (power Settings)
- (c) Shallow, Medium, Steep turns
- (d) Takeoff and departure stalls
- (e) Approach to landing stalls
- (f) Minimum controllable airspeed
- (g) VMC demonstration
- (h) VOR Tracking

Before Landing Checks

- (a) Non precision instrument approach via procedure turn (power settings & configurations)
- (b) Normal Landing

After Landing Shut down and Securing

Post flight critique and preview of next lesson.

**Completion standards:** Student will use checklists Communicate in timely manner  
Use appropriate power settings maintain a/c control +/-100ft +/-10 kts +/-10 hdg

## Lesson 2

2 hours

**Objective:** Demonstrate instrument proficiency FAR 61.57 (d) or meet instrument experience FAR 61.57 (c). With the use of checklist accomplish all normal procedures and checks. Learn abnormal procedures and the use of emergency checklist.

Events: IFR local flight

### Before Starting Engine Checks

- e. Airspeeds for Safe operation
- f. Electrical System Checks
- g. Fuel Quantity & Selectors
- h. Annunciator Lights Check
- i. Landing Gear Handle & Lights

### Normal Engine Start

#### Before Taxi Checks

- a. Aux Fuel Pump
- b. Charging Instruments Checked
- c. Vacuum System Check
- d. Lights
- e. Flight Instruments

#### Before Take-off

- a. Engine Runup
- b. Trim set
- c. Flaps set

#### Maneuvers:

- a) Normal Take-off
- b) Climb
- c) Instrument Approaches \*
  - 1. Nonprecision VOR
  - 2. Nonprecision GPS
  - 3. Nonprecision NDB
  - 4. Precision ILS
  - 5. Approach gyro failure
  - 6. Airborne Holding

#### Before Landing Checks

- a) Normal Landing
- b) After Landing Shut down and securing

\*Not all approaches have to be flown.

The number and type will vary to be a representative number of tasks required by the instrument rating practical test

### Abnormal Events

Conditions: Position Simulator in level cruise flight

### Abnormal & Emergencies

- a) Engine driven fuel pump failure
  - b) Alternator failure
  - c) Blocked static source
  - d) Avionics bus failure
  - e) Induction air icing
  - f) Loss of oil pressure
  - The abnormal events should be completed as an instructional event to the student. After completing each event the simulator should have all faults corrected before proceeding to the next event.
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- Completion standards same as Instrument Rating Practical Test Standards as outlined in FAA Practical Test Standards Publication. The abnormal events are instructional only

### **Lesson 3**

**2 hours**

**Objective:** Scenario Based Instructional Flight, gain experience in abnormal situations. Practice loss of engine power on take-off. IFR flight from ALN to UIN and then a second leg from UIN to ARR

#### **Leg 1: ALN to UIN**

##### **Events:**

Before Starting Engines Checks

- j. Airspeeds for Safe operation
- k. Electrical System Checks
- l. Fuel Quantity & Selector
- m. Landing Gear Handle & Lights

Normal Engine Start

Before Taxi Checks

- a. Aux Fuel Pump
- b. Charging Instruments Checked
- c. Vacuum System Check
- d. Lights
- e. Flight Instruments

Before Take-off

- a. Engine Runup
- b. Trim set
- c. Flaps set

Maneuvers:

1. Take-off
2. Normal Climb to cruise altitude
3. Electrical system failures
4. Engine driven fuel pump fail

Note; the abnormal events should be completed as instructional events to the student. After completing each event the simulator should have all faults corrected before proceeding to the next event. After completion of these events resume leg 1 inbound to UIN

5. Normal descent
6. Before Landing Checks
7. VOR 4 Approach at UIN full procedure
8. Normal Landing
9. After Landing Shut down and securing

**Leg: 2 UIN to MDW**

**Events:**

Before Starting Engines Checks

- n. Airspeeds for Safe operation
- o. Electrical System Checks
- p. Fuel Quantity & Selectors
- q. Landing Gear Handle & Lights

Normal Engine Start

Before Taxi Checks

- a. Aux Fuel Pump
- b. Charging Instruments Checked
- c. Vacuum System Check
- d. Lights
- e. Flight Instruments

Before Take-off

- a. Engine Runup
- b. Trim set
- c.. Flaps set

Maneuvers:

1. Normal Take-off
2. Normal Climb to Flight Levels
3. Cruise
4. Normal descent
5. Instrument approach
6. Landing
7. After Landing shut down and securing

**Completion Standard:** Scenario Based Instructional Flight No Jeopardy  
The abnormal events should be completed as an instructional event to the student.

## Lesson 4

2 hours \*

**Objective:** Scenario Based Instructional Flight, gain experience in unusual or abnormal procedures. IFR flight MDW to DEC

Events:

Before Starting Engines Checks

Engine Start

Before Taxi Checks

Before Take-off Checks

Maneuvers:

10. Normal Take-off
11. Normal Climb
12. Enroute Cruise
13. Flight Instrument Failure
14. Normal descent
15. Before Landing Checks
16. Instrument approach
17. Normal Landing
18. After Landing Shut down and securing

Additional Abnormal Events ( \* indicates training items the instructor has the option to review as time permits )

1. Normal Take-off
2. Normal Climb
3. Enroute Cruise
4. Landing Gear fails to extend \*
5. Communication failure \*
6. Normal descent/ Emergency descent \*
7. Unplanned holding \*
8. Before Landing Checks
9. Instrument approach
10. Normal Landing
11. After Landing Shut down and securing

**Completion Standard:** Scenario Based Instructional Flight No Jeopardy

The abnormal events should be completed as an instructional event to the student

*\* Lesson 4 is available as an additional scenario based instructional flight for the pilot*