



# **INSTRUMENT RATING**

## **SINGLE ENGINE AIRPLANE**

Hursa Corp x Lucky Aviation 2022



# Table of Contents

Introduction to Instrument Flight	6
Basic Attitude Instrument	10
Systems Validation	20
Upset Recovery	21
Departures	28
En Route	34
Maneuvers Validation	44
Arrivals	46
Approaches	50
Procedures Validation	61
LOFT	63
Knowledge Validation	68
Instrument Rating Evaluation	69

## Ground Lessons

Induction to Flight	6
Flight Instruments Systems	10
Traditional Navigation Systems	14
Next Generation Navigation Systems	18
Upset and IFR Emergencies	21
Airports, Airspace, and IFR Environment	25
Air Traffic Control Systems and Procedures	26
Airports, Airspace, and IFR Environment	28
Departure Charts and Procedures	29
En Route Charts and Planning	34
Holding Procedures	35
IFR Regulations	39
Arrival Charts and Procedures	46
Approach Charts and Procedures	50
Non-Precision Approach Charts and Procedures	54
Aviation Weather Products	58
Recognition of Critical Weather	63
Instrument Flight Planning	64

# Stage One

Overview

Objectives

Completion Standards



# Introduction to Instrument Flight

Introduction to Instrument Flight

Stage 1 Lesson 1

Ground Lesson

Lesson Time 4.0

*Induction to Flight*

## Objectives

This lesson will serve as the student's initial ground briefing on Fundamentals of Flight, Pro Standards Flight Operations, Pro Standards checklists, and Pro Standards Procedures.

Additionally, the instructor will introduce the aeronautical knowledge elements required prior to initial solo referencing applicable POH, the AFH, and the PHAK.

## SBT

>>

## Tasks

Introduction to Pro Standards Training Program

Course Overview

Required Course Materials

Course Policies

Professionalism

Human Factors

Threat and Error Management

Aeronautical Decision Making

Situational Awareness

Single-Pilot Recourse Management

Crew Recourse Management

Crew Communication

Workload Management

Controlled Flight into Terrain

Spatial Disorientation and Illusions

Fitness for Flight

## Completion Standards

The student demonstrates an understanding of the knowledge elements required for Fundamentals of Flight, Safety of Flight Items, and the required aeronautical knowledge elements relating to Operation of Systems and National Airspace system. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

Introduction to Instrument Flight  
Stage 1 Lesson 2  
Maneuver Brief  
Lesson Time 2.0

## Objectives

Introduce the Pro Standards SOP, and FOM with an emphasis on IFR operations.

## SBT

**>> KSAN to KLAS San Diego weather is OVC200 1 1/2 SM -RN**

## Tasks

Pro Standards Checklist Philosophy (SOP)  
Initial Aircraft Acceptance (SOP)  
Standard Callouts (SOP)  
Use of Checklists  
Positive Exchange of Flight Controls  
Before Start (SOP)  
Engine Priming (SOP)  
Engine Starting (SOP)  
Before Taxi (SOP)  
Before Takeoff (SOP)  
Instrument Takeoff (SOP)  
Climb (SOP)  
Cruise (SOP)  
Decent (SOP)  
Approach (SOP)  
Deviations and Call outs (SOP)  
After Landing (SOP)  
Shutdown/Secure (SOP)  
Flight Deck Management  
Taxiing

## Completion Standards

The student should demonstrate proficiency in SOP procedures on the ground without missing more than one flow item per checklist.

## Introduction to Instrument Flight

### Stage 1 Lesson 3

#### Dual Flight

Lesson Time 2.0

### Objectives

The Student should gain experience by conducting VFR cross-countries, focusing on SOP and standard call outs.

### SBT

>> XC to KSBA

### Tasks

Safety of Flight

Aeronautical Decision Making and Risk Management

Collision Hazards

Controlled Flight into Terrain Awareness

Weather Information

Performance and Limitations

Human Factors

Standard Operating Procedures

Preflight Assessment

Flight Deck Management

Engine Starting

Taxiing

Before Takeoff Check

Communications, Light Signals, and Runway Lighting Systems

Traffic Patterns

Airport, Taxiway, and Runway Signs and Markings

Normal Takeoff and Climb

Normal Approach and Landing

After Landing, Parking and Securing

### Completion Standards



## Introduction to Instrument Flight

### Stage 1 Lesson 4

#### Dual Flight

Lesson Time 2.0

### Objectives

The Student should gain experience by conducting VFR cross-countries, focusing on SOP and standard call outs.

### SBT

>> XC to KAVX - L35

### Tasks

Safety of Flight

Aeronautical Decision Making and Risk Management

Collision Hazards

Controlled Flight into Terrain Awareness

Weather Information

Performance and Limitations

Human Factors

Standard Operating Procedures

Preflight Assessment

Flight Deck Management

Engine Starting

Taxiing

Before Takeoff Check

Communications, Light Signals, and Runway Lighting Systems

Traffic Patterns

Airport, Taxiway, and Runway Signs and Markings

Normal Takeoff and Climb

Normal Approach and Landing

After Landing, Parking and Securing

### Completion Standards

# Basic Attitude Instrument

Basic Attitude Instrument  
Stage 1 Lesson 5  
Ground Lesson  
Lesson Time 2.0

*Flight Instruments Systems*

## Objectives

### SBT

>>

### Tasks

Pitot-Static Instruments  
Airspeed Indicator  
Altimeter  
Vertical Speed Indicator  
Systems Errors  
Gyroscopic Flight Instruments  
Attitude Indicator  
Heading Indicator  
Rate of Turn Indicators  
Slip/skid Indicator  
Magnetic Compass  
Instrument Checks  
Air Data Computer  
Attitude Heading Reference  
Electronic Flight Instruments  
Electronic Instrument Checks  
Electronic Instrument Failures and System Errors

## Completion Standards

Basic Attitude Instrument  
Stage 1 Lesson 6  
Maneuvers Brief  
Lesson Time 2.0

**Objectives**

**SBT**



**Tasks**

Fundamental IFR Skills  
Control-Performance Method  
Instrument Cockpit Check  
Instrument Interpretation  
Airplane Control  
Primary Supporting Concept  
Straight and Level Flight  
Change of Airspeed and Configuration  
Climbing and Descending Turns  
Turns to Predetermined Headings  
Instrument Takeoff  
Vertical S  
BAI Patterns  
Steep Turns  
Common Errors

**Completion Standards**

Basic Attitude Instrument  
Stage 1 Lesson 7  
Flight Lesson  
Lesson Time 2.0

**Objectives**

**SBT**



**Tasks**

Fundamental IFR Skills  
Control-Performance Method  
Instrument Cockpit Check  
Straight and Level Flight  
Change of Airspeed and Configuration  
Climbing and Descending Turns  
Turns to Predetermined Headings  
Instrument Takeoff  
Vertical S  
Compliance with Air Traffic Control Clearances  
Checklist Usage  
SOP Callouts

**Completion Standards**

Basic Attitude Instrument  
Stage 1 Lesson 8  
Flight Lesson  
Lesson Time 2.0

**Objectives**

**SBT**



**Tasks**

Fundamental IFR Skills  
Control-Performance Method  
Instrument Cockpit Check  
Straight and Level Flight  
Change of Airspeed and Configuration  
Climbing and Descending Turns  
Turns to Predetermined Headings  
Instrument Takeoff  
Vertical S  
BAI Patterns  
Steep Turns  
Compliance with Air Traffic Control Clearances  
Checklist Usage  
SOP Callouts

**Completion Standards**

## Basic Attitude Instrument

### Stage 1 Lesson 9

#### Ground Lesson

#### Lesson Time 2.0

### *Traditional Navigation Systems*

#### **Objectives**

#### **SBT**

>>

#### **Tasks**

Basic Radio Principles

NDB/ADF

Operational Errors

VOR

Operational Errors

VOR Receiver Checks

Operational Errors

DME Arc

ILS/ILS Components

Operational Errors

SDF/LDA

Radar

Basic Attitude Instrument  
Stage 1 Lesson 10  
Flight Lesson  
Lesson Time 2.0

**Objectives**

**SBT**



**Tasks**

Fundamental IFR Skills  
Control-Performance Method  
Instrument Cockpit Check  
Straight and Level Flight  
Change of Airspeed and Configuration  
Climbing and Descending Turns  
Turns to Predetermined Headings  
Instrument Takeoff  
Vertical S  
BAI Patterns  
Steep Turns  
Compliance with Air Traffic Control Clearances

**Completion Standards**

Basic Attitude Instrument  
Stage 1 Lesson 11  
Maneuver Briefing  
Lesson Time 2.0

**Objectives**

**SBT**



**Tasks**

Airplane Systems  
System and Equipment Malfunctions  
Timed Turns  
Magnetic Compass Turns  
Loss of Primary Flight Instrument Indications  
Coping With Instrument Failure  
Partial Panel Flying  
Timed Turns  
Unusual Attitude Recovery  
Electronic Flight Instrument Operational Considerations

**Completion Standards**



Basic Attitude Instrument  
Stage 1 Lesson 12  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT



### Tasks

Instrument Cockpit Check  
System and Equipment Malfunctions  
Straight and Level Flight [Partial Panel]  
Change of Airspeed and Configuration [Partial Panel]  
Straight Climbs and Descending [Partial Panel]  
Climbing and Descending Turns [Partial Panel]  
Vertical S [Partial Panel]  
Timed Turns  
Magnetic Compass Turns  
Loss of Primary Flight Instrument Indications  
Checklist Usage  
Standard Callouts

### Completion Standards

Basic Attitude Instrument  
Stage 1 Lesson 13  
Ground Lesson  
Lesson Time 2.0

*Next Generation Navigation Systems*

## Objectives

### SBT

>>

### Tasks

Area Navigation (RNAV)  
Global Positioning System (GPS)  
WAAS  
Required Navigation Performance

## Completion Standards

Basic Attitude Instrument  
Stage 1 Lesson 14  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
System and Equipment Malfunctions  
Straight and Level Flight [Partial Panel]  
Change of Airspeed and Configuration [Partial Panel]  
Straight Climbs and Descending [Partial Panel]  
Climbing and Descending Turns [Partial Panel]  
Vertical S [Partial Panel]  
Timed Turns  
Magnetic Compass Turns  
Loss of Primary Flight Instrument Indications  
Checklist Usage  
Standard Callouts

## Completion Standards

# Systems Validation

SV  
Stage 1 Lesson 15  
Validation  
Lesson Time 2.0

## Objectives

### SBT



### Tasks

Aircraft Systems  
Aircraft Flight Instruments  
Aircraft Limitations  
Memory Items

## Completion Standards

# Upset Recovery

Upset Recovery  
Stage 1 Lesson 16  
Ground Lesson  
Lesson Time 2.0

*Upset and IFR Emergencies*

## Objectives

### SBT

>>

### Tasks

Upsets  
Upset Recovery  
Upset Recovery [Partial Panel]  
EET  
Declaring an Emergency  
Minimum Fuel  
Gyroscopic Instrument Failure  
Emergency Approach Procedures  
Communications Failure  
Malfunction Reports  
Electronic Flight Instrument Operational Considerations

## Completion Standards

Upset Recovery  
Stage 1 Lesson 17  
Maneuver Brief  
Lesson Time 2.0

## Objectives

### SBT



### Tasks

Upset Recovery  
Upset Recovery [Partial Panel]

## Completion Standards

Upset Recovery  
Stage 1 Lesson 18  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT



### Tasks

Upset Recovery  
Upset Recovery [Partial Panel]

### Completion Standards

Upset Recovery  
Stage 1 Lesson 19  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT



### Tasks

Upset Recovery  
Upset Recovery [Partial Panel]

## Completion Standards



Upset Recovery  
Stage 1 Lesson 20  
Ground Lesson  
Lesson Time 2.0

*Airports, Airspace, and IFR Environment*

## Objectives

### SBT

>>

### Tasks

Airport/Facility Directory (A/FD)  
Aeronautical Information Manual (AIM)  
Notices to Airmen (NOTAMs)  
Advisory Circulars  
The Airport Environment  
Runway and taxiway signs, markings and lighting  
Runway Incursion Avoidance  
Land and Hold Short Operations (LAHSO)  
Approach Light Systems  
Visual Glide Slope Indicators  
IFR Operations in the National Airspace System

Upset Recovery  
Stage 1 Lesson 21  
Ground Lesson  
Lesson Time 2.0

## *Air Traffic Control Systems and Procedures*

### **Objectives**

#### **SBT**

>>

#### **Tasks**

Air Traffic Control System  
Procedures for Instrument Flight Operations  
IFR Flight Plan and ATC Clearance  
Elements of an IFR Clearance  
Abbreviated IFR Departure Clearance  
Cruise Clearance  
VFR on Top Clearance  
Composite Flight Plan  
Tower Enroute Control Clearance (TEC)  
Departure Restrictions  
Clearance Void Time  
Clearance Read back  
Clearance Shorthand

## Stage Two

Overview

Objectives

Completion Standards

# Departures

Departures

Stage 2 Lesson 22

Ground Lesson

Lesson Time 2.0

*Airports, Airspace, and IFR Environment*

## Objectives

**SBT**

>>

## Tasks

Airport/Facility Directory (A/FD)

Aeronautical Information Manual (AIM)

Notices to Airmen (NOTAMs)

Advisory Circulars

The Airport Environment

Runway and taxiway signs, markings and lighting

Runway Incursion Avoidance

Land and Hold Short Operations (LAHSO)

Approach Light Systems

Visual Glide Slope Indicators

IFR Operations in the National Airspace System

Departures  
Stage 2 Lesson 23  
Ground Lesson  
Lesson Time 2.0

*Departure Charts and Procedures*

## **Objectives**

### **SBT**

>>

### **Tasks**

Departure Charts  
Departure Standards  
U.S. Standards for Terminal Instrument Procedures (TERPS)  
Takeoff Minimums  
Departure Options  
IFR Departure Procedures

Departures  
Stage 2 Lesson 24  
Maneuvers Brief  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Aircraft Navigation Equipment  
Intercepting and Tracking Navigational Systems  
Intercepting and Tracking Arcs  
Radar Vectors  
Departure Procedures

### Completion Standards

The student demonstrates an understanding of the elements related to airplane navigation equipment and intercepting and tracking navigational systems, arcs, and departure en route, and arrival operations. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

Departures  
Stage 2 Lesson 25  
Flight Lesson  
Lesson Time 2.0

### Objectives

This lesson will serve as practice in the aircraft, of the procedures associated with intercepting and tracking navigational systems, arcs, and departure, en route, and arrival operations. All Skills will be performed solely by reference to instruments.

### SBT

>> *ODP - KRNM ODP*

### Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Intercepting and Tracking Navigation Systems  
Intercepting and Tracking Arcs  
Departure Procedures  
Radar Vectors  
Checklist Usage  
Standard Callouts

### Completion Standards

This Lesson will be graded at +50% ACS. The student demonstrates an understanding of the elements related to airplane navigation equipment and intercepting and tracking navigational systems, arcs, and departure, en route, and arrival operations by performing the tasks solely by reference to instruments in accordance with the ERAU Standardization Manual and Instrument Rating Airplane Airman Certification Standards.

Departures  
Stage 2 Lesson 26  
Flight Lesson  
Lesson Time 2.0

### Objectives

This lesson will serve as practice in the aircraft, of the procedures associated with intercepting and tracking navigational systems, arcs, and departure, en route, and arrival operations. All Skills will be performed solely by reference to instruments.

### SBT

>> *ODP - KPSP for Cathedral(x) Departure*

### Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Intercepting and Tracking Navigation Systems  
Intercepting and Tracking Arcs  
Departure Procedures  
Radar Vectors  
Checklist Usage  
Standard Callouts

### Completion Standards

This Lesson will be graded at +50% ACS. The student demonstrates an understanding of the elements related to airplane navigation equipment and intercepting and tracking navigational systems, arcs, and departure, en route, and arrival operations by performing the tasks solely by reference to instruments in accordance with the ERAU Standardization Manual and Instrument Rating Airplane Airman Certification Standards.



Departures  
Stage 2 Lesson 27  
Flight Lesson  
Lesson Time 2.0

## Objectives

This lesson will serve as practice in the aircraft, of the procedures associated with intercepting and tracking navigational systems, arcs, and departure, en route, and arrival operations. All Skills will be performed solely by reference to instruments.

## SBT

>> *ODP - KPSP for Cathedral(x) Departure*

## Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Systems and Equipment Malfunctions  
Instrument Takeoff  
Intercepting and Tracking Navigation Systems [Partial Panel]  
Intercepting and Tracking Arcs [Partial Panel]  
Departure Procedures [Partial Panel]  
Radar Vectors [Partial Panel]  
Checklist Usage  
Standard Callouts

## Completion Standards

This Lesson will be graded at +50% ACS. The student demonstrates an understanding of the elements related to airplane navigation equipment and intercepting and tracking navigational systems, arcs, and departure, en route, and arrival operations by performing the tasks solely by reference to instruments in accordance with the ERAU Standardization Manual and Instrument Rating Airplane Airman Certification Standards.

## En Route

En Route  
Stage 2 Lesson 28  
Ground Lesson  
Lesson Time 2.0

*En Route Charts and Planning*

### Objectives

#### SBT

>>

#### Tasks

Enroute Charts  
Front Panel  
Navigation Aids  
Victor Airways  
Communication  
Airports  
Airspace  
Area Charts  
Enroute Procedures  
Communication  
Radar and Non-Radar Reports  
Reporting Procedures  
IFR Cruising Altitudes  
Descending From the Enroute Segment

En Route  
Stage 2 Lesson 29  
Ground Lesson  
Lesson Time 2.0

*Holding Procedures*

## **Objectives**

### **SBT**

>>

### **Tasks**

ATC Holding Instructions  
Holding Pattern Terminology  
Holding Pattern Entry Procedures  
Crosswind Correction  
Maximum Holding Speeds

En Route  
Stage 2 Lesson 30  
Maneuvers Brief  
Lesson Time 2.0

### Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

### SBT

>> *Holding Delays in SOCAL CARIF, OCN, VISTA, and ROBNN*

### Tasks

Holding Procedures

### Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

En Route  
Stage 2 Lesson 31  
Flight Lesson  
Lesson Time 2.0

## Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

## SBT

>> *Holding Delays in SOCAL CARIF, OCN, VISTA, and ROBNN*

## Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Departure Procedures  
En Route Procedures  
Intercepting and Tracking Navigational Systems  
VOR Holds  
DME Holds  
Intersection Holds  
GPS Holds  
Checklist Usage  
Standard Callouts

## Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

En Route  
Stage 2 Lesson 32  
Flight Lesson  
Lesson Time 2.0

### Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

### SBT

>> *Holding Delays in SOCAL CARIF, OCN, VISTA, and ROBNN*

### Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Departure Procedures  
En Route Procedures  
Intercepting and Tracking Navigational Systems  
VOR Holds  
DME Holds  
Intersection Holds  
GPS Holds  
Checklist Usage  
Standard Callouts

### Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

En Route  
Stage 2 Lesson 33  
Ground Lesson  
Lesson Time 2.0

*IFR Regulations*

**Objectives**

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

**SBT**

>> *Fly with Chris to Vegas today*

**Tasks**

Part 1.1 – Definitions and Abbreviations  
Part 1.2 – Abbreviations and Symbols  
Part 1.3 – Rules of Construction  
Part 61.51 – Pilot Logbooks  
Part 61.57 – Recent Flight Experience: Pilot in Command  
Part 61.133 – Commercial Pilot Privileges and Limitations  
Part 91.21 – Portable Electronic Devices  
Part 91.103 – Preflight Action  
Part 91.109 – Flight Instruction; Simulated Instrument Flight  
Part 91.113 – Right-of-Way Rules: Except Water Operations  
Part 91.121 – Altimeter Settings  
Part 91.123 – Compliance with ATC Clearances and Instructions  
Part 91.131 – Operations in Class B Airspace  
Part 91.135 – Operations in Class A Airspace  
Part 91.167 – Fuel Requirements for Flight in IFR Conditions  
Part 91.169 – IFR Flight Plan: Information Required  
Part 91.171 – VOR Equipment Check for IFR Operations  
Part 91.173 – ATC Clearance and Flight Plan Required  
Part 91.175 – Takeoff and Landing under IFR  
Part 91.177 – Minimum Altitudes for IFR Operations  
Part 91.179 – IFR Cruising Altitude or Flight Level  
Part 91.181 – Course to be flown  
Part 91.183 – IFR Radio Communications  
Part 91.185 – Two-Way Radio Communications Failure  
Part 91.187 – IFR in Controlled Airspace: Malfunction Reports  
Part 91.205 – Instrument & Equipment Requirements  
NTSB 830 – Notification and Reporting of Accidents or Incidents

En Route  
Stage 2 Lesson 34  
Flight Lesson  
Lesson Time 2.0

## Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

## SBT

>> *Holding Delays in SOCAL CARIF, OCN, VISTA, and ROBNN*

## Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Departure Procedures [Partial Panel]  
En Route Procedures [Partial Panel]  
Intercepting and Tracking Navigational Systems [Partial Panel]  
VOR Holds [Partial Panel]  
DME Holds [Partial Panel]  
Intersection Holds [Partial Panel]  
GPS Holds [Partial Panel]  
Checklist Usage  
Standard Callouts

## Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.



En Route  
Stage 2 Lesson 35  
Maneuvers Brief  
Lesson Time 2.0

**Objectives**

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

**SBT**

>>

**Tasks**

DME Arcs

**Completion Standards**

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

En Route  
Stage 2 Lesson 36  
Flight Lesson  
Lesson Time 2.0

### Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Departure Procedures  
En Route Procedures  
Intercepting and Tracking Navigational Systems  
GPS Holds  
DME Arcs  
Checklist Usage  
Standard Callouts

### Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

En Route  
Stage 2 Lesson 36  
Flight Lesson  
Lesson Time 2.0

## Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

## SBT

>>

## Tasks

Instrument Cockpit Check  
Compliance with Air Traffic Control Clearances  
Instrument Takeoff  
Departure Procedures [Partial Panel]  
En Route Procedures [Partial Panel]  
Intercepting and Tracking Navigational Systems [Partial Panel]  
GPS Holds [Partial Panel]  
DME Arcs [Partial Panel]  
Checklist Usage  
Standard Callouts

## Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

# Maneuvers Validation

MV

Stage 2 Lesson 37

Validation

Lesson Time 2.0

## Objectives

To teach the student the aeronautical knowledge and skills related to the elements of holding procedures and airplane systems related to IFR operations. All Skills will be performed solely by reference to instruments.

## SBT

>>

## Tasks

Instrument Cockpit Check

Compliance with Air Traffic Control Clearances

Instrument Takeoff

Departure Procedures

En Route Procedures

Intercepting and Tracking Navigational Systems

GPS Holds

DME Arcs

Instrument Flight [Partial Panel]

Holds [Partial Panel]

Checklist Usage

Standard Callouts

## Completion Standards

The student demonstrates an understanding of the knowledge and skills required to conduct holding procedures. The lesson will be complete once the instructor has introduced all the required Tasks and subsequent elements to the student.

## Stage Three

Overview

Objectives

Completion Standards



# Arrivals

Arrivals  
Stage 3 Lesson 38  
Ground Lesson  
Lesson Time 2.0

*Arrival Charts and Procedures*

## Objectives

**SBT**

>>

## Tasks

Arrival Charts  
Standard Terminal Arrival Route (STAR)  
Interpreting the STAR  
Vertical Navigation Planning  
Arrival Procedures

Arrivals  
Stage 3 Lesson 39  
Maneuver Brief  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Aircraft Navigation Equipment  
Intercepting and Tracking Navigational Systems  
Arrival Procedures  
Standard Operating Procedures  
Checklist Usage

## Completion Standards

Arrivals  
Stage 3 Lesson 40  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Aircraft Navigation Equipment  
Intercepting and Tracking Navigational Systems  
Arrival Procedures  
Standard Operating Procedures  
Checklist Usage

## Completion Standards



Arrivals  
Stage 3 Lesson 41  
Flight Lesson  
Lesson Time 2.0

## Objectives

**SBT**

>>

## Tasks

Aircraft Navigation Equipment  
Intercepting and Tracking Navigational Systems  
Arrival Procedures  
Standard Operating Procedures  
Checklist Usage

## Completion Standards

# Approaches

Approaches  
Stage 3 Lesson 42  
Ground Lesson  
Lesson Time 2.0

*Approach Charts and Procedures*

## Objectives

### SBT

>>

### Tasks

Overview/Purpose  
Non-Precision vs. Precision  
Visual/Contact  
Approach Segments  
Feeder Routes  
Initial Approach Segment  
Intermediate Approach Segment  
Final Approach Segment  
Missed Approach Segment  
Chart Layout  
Heading Section  
Plan View  
Profile View  
Landing Minimums  
Airport Diagram  
Preparing for the Approach  
Approach Clearance  
Executing the Approach  
Straight-In Approach  
Straight-in Landing  
Radar Vectors  
Approaches Which Require Course Reversal  
Timed Approaches from a Holding Fix  
Final Approach  
Circling Approaches  
Sidestep Maneuver  
Missed Approach Procedures  
GPS Operational Considerations

Approaches  
Stage 3 Lesson 43  
Maneuver Brief  
Lesson Time 2.0

**Objectives**

**SBT**



**Tasks**

Precision Approach  
Missed Approach  
Landing From a Straight in or Circling Approach  
ILS Categories and Minimums  
Flying the ILS  
Localizer Approach  
Localizer Back Course Approach  
LDA, SDF, and MLS Approaches

**Completion Standards**

Approaches  
Stage 3 Lesson 44  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with ATC Clearances  
Instrument Takeoff  
Departure, En route and Arrival Procedures  
Holding  
Precision Approach  
Missed Approach  
Landing From a Straight in or Circling Approach  
Checklist Usage  
Standard Operating Procedures

## Completion Standards

Approaches  
Stage 3 Lesson 45  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with ATC Clearances  
Instrument Takeoff  
Departure, En route and Arrival Procedures  
Holding  
Precision Approach  
Missed Approach  
Landing From a Straight-In Approach  
Checklist Usage  
Standard Operating Procedures

## Completion Standards

Approaches  
Stage 3 Lesson 46  
Ground Lesson  
Lesson Time 2.0

*Non-Precision Approach Charts and Procedures*

## Objectives

### SBT

>>

### Tasks

VOR Approaches  
GPS and RNAV Approaches  
VOR/DME RNAV Approaches  
NDB Approaches

Approaches  
Stage 3 Lesson 47  
Maneuver Brief  
Lesson Time 2.0

**Objectives**

**SBT**

>>

**Tasks**

Non-Precision Approach  
Missed Approach  
Circling Approach  
Landing from a Straight-In Approach  
Circling Approaches  
MDA

**Completion Standards**

Approaches  
Stage 3 Lesson 48  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with ATC Clearances  
Instrument Takeoff  
Departure, En route and Arrival Procedures  
Holding  
Non-Precision Approach (GPS)  
Approach with Loss of Primary Flight Instrument Indications  
Missed Approach  
Landing From a Straight-In Approach  
Checklist Usage  
Standard Operating Procedures

### Completion Standards



Approaches  
Stage 3 Lesson 49  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with ATC Clearances  
Instrument Takeoff  
Departure, En route and Arrival Procedures  
Holding  
Non-Precision Approach (VOR)  
Approach with Loss of Primary Flight Instrument Indications  
Missed Approach  
Landing From a Straight-In Approach  
Checklist Usage  
Standard Operating Procedures

## Completion Standards

**Approaches**

Stage 3 Lesson 50

Ground Lesson

Lesson Time 2.0

*Aviation Weather Products***Objectives****SBT****Tasks**

Aviation Routine Weather Reports (METARs)

Pilot Weather Reports (PIREP)

Terminal Aerodrome Forecasts (TAF)

Aviation Area Forecast (FA)

Winds and Temperatures Aloft Forecast (FD)

Surface Analysis Chart

Weather Depiction Chart

Radar Summary Chart

Constant Pressure Analysis Chart

Freezing Level Chart/Stability Chart

Observed Winds and Temperatures Aloft Chart

U.S. Low-Level Significant Weather Prognostic Chart

U.S. High-Level Significant Weather Prognostic

Approaches  
Stage 3 Lesson 51  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with ATC Clearances  
Instrument Takeoff  
Departure, En route and Arrival Procedures  
Holding  
Non-Precision Approach (LOC)  
Approach with Loss of Primary Flight Instrument Indications  
Missed Approach  
Landing From a Straight-In Approach  
Checklist Usage  
Standard Operating Procedures

## Completion Standards

Approaches  
Stage 3 Lesson 52  
Flight Lesson  
Lesson Time 2.0

## Objectives

### SBT

>>

### Tasks

Instrument Cockpit Check  
Compliance with ATC Clearances  
Instrument Takeoff  
Departure, En route and Arrival Procedures  
Holding  
Non-Precision Approach (Other)  
Approach with Loss of Primary Flight Instrument Indications  
Missed Approach  
Landing From a Straight-In Approach  
Checklist Usage  
Standard Operating Procedures

## Completion Standards

# Procedures Validation

PV

Stage 3 Lesson 53

Validation

Lesson Time 2.0

## Objectives

**SBT**

>>

## Tasks

Instrument Cockpit Check

Compliance with ATC Clearances

Instrument Takeoff

Departure, En route and Arrival Procedures

Holding

Non-Precision Approach (Other)

Approach with Loss of Primary Flight Instrument Indications

Missed Approach

Landing From a Straight-In Approach

Checklist Usage

Standard Operating Procedures

## Completion Standards

## Stage Four

Overview

Objectives

Completion Standards

# LOFT

LOFT

Stage 4 Lesson 54

Ground Lesson

Lesson Time 2.0

*Recognition of Critical Weather*

## Objectives

SBT

>>

## Tasks

Weather Hazards

Thunderstorm Avoidance

Turbulence

Wind Shear Avoidance

Microburst

Clouds and Fog

Structural Icing

Preflight Weather Briefing

Airmet (WA), Sigmet (WS), Convective Sigmet (WST)

Enroute Flight Advisory Service (EFAS)

Hazardous In-Flight Weather Advisory Service (HIWAS)

Transcribed Weather Broadcasts (TWEB)

Automated Surface Observation System (ASOS)

Automated Weather Observing Systems (AWOS)

Weather Radar Services

**LOFT**

Stage 4 Lesson 55

Ground Lesson

Lesson Time 4.0

*Instrument Flight Planning***Objectives****SBT**

&gt;&gt;

**Tasks**

Weather Information

Cross-Country Flight Planning

Loss of Communications

Pilot Qualifications

Pre-planning Preparation

IFR Route Selection

Departure Segment

Arrival Segment

En route Segment

Applicable Federal Aviation Regulations

IFR Flight Planning Process

Navigation Log

Filing an IFR Flight Plan

Closing an IFR Flight Plan

GPS Operational Considerations

**Completion Standards**



**LOFT**

Stage 4 Lesson 56

Flight Lesson

Lesson Time 2.0

**Objectives**

**SBT**

>>

**Tasks**

Weather Information

Cross-Country Flight Planning

Compliance with ATC Clearances

Instrument Takeoff

Departure Procedures

Precision Approach

Non-Precision Approach

Landing from a Straight-In or Circling Approach

Loss of Communications

Checklist Usage

Standard Operating Procedures

**Completion Standards**

**LOFT**

Stage 4 Lesson 57

Flight Lesson

Lesson Time 20.0

**Objectives****SBT**

&gt;&gt; Day 1 SAN // KPHX // KLAS

&gt;&gt; Day 2 KMRV

&gt;&gt; Day 2 KPRB // KCMA // SAN

**Tasks**

Weather Information

Cross-Country Flight Planning

Compliance with ATC Clearances

Instrument Takeoff

Departure Procedures

Precision Approach

Non-Precision Approach

Missed Approach

Landing from a Straight-In or Circling Approach

Loss of Communications

Checklist Usage

Standard Operating Procedures

**Completion Standards**

LOFT

Stage 4 Lesson 58

Flight Lesson

Lesson Time 4.0

## Objectives

SBT

>>

## Tasks

Weather Information

Cross-Country Flight Planning

Airplane systems related to IFR Operations

Airplane Flight Instruments and Navigation Equipment

Compliance with ATC Clearances

Departure, En Route and Arrival Procedures

Holding Procedures

Loss of Communications

Pilot Qualifications

Course Deficient Items

## Completion Standards

# Knowledge Validation

KV

Stage 4 Lesson 59

Validation

Lesson Time 2.0

## Objectives

SBT

>>

## Tasks

Weather Information

Cross-Country Flight Planning

Airplane systems related to IFR Operations

Airplane Flight Instruments and Navigation Equipment

Compliance with ATC Clearances

Departure, En Route and Arrival Procedures

Holding Procedures

Loss of Communications

Pilot Qualifications

## Completion Standards

# Instrument Rating Evaluation

IRE

Stage 4 Lesson 60

Evaluation

Lesson Time 2.0

## Objectives

To determine through flight evaluation that the student possesses the required aeronautical skills to safely conduct flight operations as an FAA rated Instrument Pilot. All Skills will be performed in accordance with the Instrument Rating Airplane Airman Certification Standards.

## SBT

>>

## Tasks

Instrument Flight Deck Check  
Compliance with ATC Clearances  
Departure, En Route, and Arrival Operations  
Instrument Flight  
Holding Procedures  
Intercepting and Tracking Navigation Systems  
DME ARCS  
Precision Approaches  
Non-Precision Approaches  
Circling Approach  
Missed Approach  
Landing From a Straight-In or Circling Approach  
Recovery From Unusual Attitudes  
Approach with Loss of Primary Flight Instrument Indications  
Checking Instruments and Equipment

## Completion Standards

The student demonstrates the required aeronautical skills to safely conduct flight operations as an FAA rated Instrument Pilot by meeting the standards prescribed in the Instrument Rating Airplane Airman Certification Standards.