

# Stage I - Instrument Rating

## Ground Lesson 1

Leading Edge Aviation  
Version 2012

Note: Students should read Chapter 1, Sections A and B prior to Ground Lesson 1.

### Lesson Objective:

- Review knowledge of private pilot privileges.
- Become familiar with advanced pilot training and opportunities.
- Gain an understanding of the advanced human concepts related to aviation.

### Academic Content:

#### Course Overview

- Course Elements
- Course Materials
- Exams and Tests
- Policies and Procedures
- Aviation Training Device (ATD) Utilization
- Student/Instructor Expectations
- Review Private Pilot Privileges and Limitations

#### Section A - Instrument/Commercial Training and Opportunities

- Instrument Flight
- Instrument/Commercial Training
- Commercial Pilot Privileges
- Additional Certificates and Ratings

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Section B - Advanced Human Factors Concepts

- Aeronautical Decision Making
- Crew Resource Management
- Single-Pilot Resource Management
- The Decision-Making Process
- Pilot-in-Command Responsibility
- Communication
- Workload Management
- Situational Awareness

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Aviation Physiology

- Spatial Disorientation
- Vestibular Disorientation
- Motion Sickness
- Hypoxia
- Prevention of Hypoxia
- Decompression Sickness
- Hyperventilation
- Stress
- Fatigue
- Alcohol and Drugs
- Fitness for Flight

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- The student will indicate, through oral quizzing, familiarity with instrument/commercial training, opportunities in aviation, human factors, and understanding of private pilot privileges. In addition, the instructor will make sure the student has a basic understanding of policies and procedures applicable to the school's pilot training program.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage I - Instrument Rating

## Ground Lesson 2

Note: Students should read Chapter 2, Section A prior to Ground Lesson 2.

### Lesson Objective:

- Gain a working knowledge of the function and use of the flight instrument components and systems.
- Become familiar with the limitations and common errors of the flight instrument systems and components.

### Academic Content:

#### Section A - Instrument/Commercial Training and Opportunities

- FAA Instrument Requirements
- Pilots Operating Handbook

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Gyroscopic Flight Instruments

- System Operation
- System Errors
- Instrument Check

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Magnetic Compass

- System Operation
- System Errors
- Instrument Check

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Pitot-Static Instruments

- System Operation
- System Errors
- Instrument Check
- V-Speeds and Color Codes

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Integrated Displays

- Primary Flight Display (PFD)
- Multifunction Display (MFD)
- Malfunctions and Failures

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of IFR instrument requirements as well as instrument flight systems, instrument operations, and instrument errors during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 2 questions for Section A with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 3.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage I - Instrument Rating

## Ground Lesson 3

Note: Students should read Chapter 2, Section B prior to Ground Lesson 3.

### Lesson Objective:

- Review the basic principles of attitude instrument flying, including the fundamental procedures related to instrument cross-check, instrument interpretation, and aircraft control.
- Gain a working knowledge of the instrument cockpit check.
- Become familiar with instrument system failures and partial panel flight procedures.

### Academic Content:

#### Section B - Attitude Instrument Flying

##### Fundamental Skills

- Instrument Cross-Check
- Instrument Interpretation
- Aircraft Control
- Control and Performance Concept
- Primary/Support Concept

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### Basic Flight Maneuvers

- Straight-and-Level Flight
- Standard-Rate Turns
- Steep Turns
- Constant Airspeed Climbs
- Constant Rate Climbs
- Constant Airspeed Descents
- Constant Rate Descents
- Leveloff From Climbs and Descents
- Climbing and Descending Turns
- Stalls

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### Coping With Instrument Failure

- Identifying an Instrument Failure
- Attitude Indicator Failure
- Heading Indicator Failure
- Partial Panel Flying
- Magnetic Compass Turns
- Timed Turns
- Pitot-Static Instrument Failures

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### Unusual Attitude Recovery

- Nose-High Attitude
- Nose-Low Attitude
- Partial Panel Unusual Attitude Recovery

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

**Introduction to the ATD (Option)**

- Orientation and Flight Familiarization
- Overview of Physical and Virtual Controls
- Aircraft Systems Related to IFR Operations
- Instrument Cockpit Check
- Full Panel Instrument Maneuvers
- Partial Panel Instrument Considerations

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

**Completion Standards:**

- Demonstrate understanding of basic attitude instrument flight during oral quizzing by the instructor at completion of lesson.
- Exhibit knowledge of partial panel instrument flight procedures.
- Student completes Chapter 2 questions for section B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 4.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage I - Instrument Rating

## Ground Lesson 4

Note: Students should read Chapter 2, Section C prior to Ground Lesson 4.

### Lesson Objective:

- Learn the function, use, and limitations of VOR, DME, and ADF radio equipment navigation aids (navaids).
- Understand the concept of area navigation (RNAV).
- Learn the function, use and limitations of GPS navigation.

### Academic Content:

#### Section C - Instrument Navigation

##### VOR Navigation

- Horizontal Situation Indicator
- Intercepting a Radial
- Tracking
- Determining Your Progress
- Time and Distance to a Station
- Station Passage
- VOR Limitations
- Distance Measuring Equipment
- DME Arcs

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### ADF Navigation

- Automatic Direction Finder
- Radio Magnetic Indicator
- Intercepting a Bearing
- Tracking

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### VOR and ADF Operational Considerations

- Ground Facilities
- VOR Checks
- Identification

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### Area Navigation

- Flight Management Systems (FMS)
- Inertial Navigation System (INS)

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### GPS Navigation

- Regulatory Requirements
- Programming and Flying Routes
- Course Deviation Indications

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

**ATD (Option)**

- VOR Orientation
- Intercepting and Tracking A VOR Radial
- Intercepting and Tracking DME Arcs
- NDB Orientation
- Intercepting and Tracking NDB Bearings
- GPS Programming
- Intercepting and Tracking GPS Courses
- HSI and RMI Orientation
- Integrated Display Orientation

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

**Completion Standards:**

- Demonstrate understanding of the use and limitations of navigation systems during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 2 questions for Section C with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 5.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage I - Instrument Rating

## Ground Lesson 5

Note: Students should read the applicable instrument FAR's and AIM prior to Ground Lesson 5.

### Lesson Objective:

- Become familiar with the Federal Aviation Regulations related to instrument flight.
- Understand the information from NTSB Part 830.

### Academic Content:

- FAR Part 1
- FAR Part 61
- FAR Part 91
- NTSB 830

### Completion Standards:

- Demonstrate understanding of the resources and regulations related to instrument flight during oral quizzing by the instructor at completion of lesson.
- Student will complete the Instrument Rating (Airplane) Exercises in the FAR/AIM with a minimum passing score of 80%, and the instructor will review each incorrect response to ensure complete understanding before the student progresses to Ground Lesson 6.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_



# Stage I - Instrument Rating

## Ground Lesson 6

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Note: Students should read Chapter 3, Section A prior to Ground Lesson 6.

### Lesson Objective:

- Study and become familiar with the airport environment, including collision avoidance and runway incursion avoidance.
- Gain specific knowledge of the National Airspace System.
- Gain a basic understanding of the sources of flight information, particularly the Aeronautical Information Manual and Advisory circulars dealing with IFR flight.

### Academic Content:

#### Section A - Airports, Airspace, and Flight Information

##### Airport Environment

- Runway Markings
- Taxiway Markings
- Airport Signs
- Runway Incursion Avoidance
- Land and Hold Short Operations (LAHSO)
- Approach Light System
- Visual Glide Slope Indicators
- Runway Lighting
- Airport Beacons and Obstruction Lights

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### Airspace

- Controlled Airspace
- Class A, B, C, D, and E Airspace
- Special VFR
- Class G Airspace (Uncontrolled)
- Aircraft Speed Limits
- Special Use Airspace
- Other Airspace Areas
- ADIZ

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

##### Flight Information

- Aeronautical Information Manual
- Airport/Facility Directory
- Notices to Airman (NOTAMS)
- International Flight Information Manual
- Advisory Circulars

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of the airport environment and lighting, as well as airspace usage and sources of flight information during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 3 questions for Section A with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 7.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage I - Instrument Rating

## Ground Lesson 7

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Note: Students should read Chapter 3, Section B prior to Ground Lesson 7.

### Lesson Objective:

- Learn the types of services provided by the air traffic control system.
- Become familiar with the various enroute and terminal facilities and their use for flight under IFR.

### Academic Content:

#### Section B - Air Route Traffic Control System

- Air Route Traffic Control Center
- ARTCC Traffic Separation
- Processing the IFR Flight Plan
- Weather Information
- Safety Alerts
- Emergency Assistance
- Terminal Facilities
- ATIS
- Clearance Delivery
- Control tower
- Approach and Departure Control
- Radar Service for VFR Aircraft
- Flight Service Stations

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of enroute and terminal ATC services during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 3 questions for Section B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 8.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage I - Instrument Rating

## Ground Lesson 8

Note: Students should read Chapter 3, Section C prior to Ground Lesson 8.

### Lesson Objective:

- Become familiar with ATC clearance procedures.
- Learn and gain experience using clearance shorthand.

### Academic Content:

#### Section C - ATC Clearances

- Pilot Responsibilities
- IFR Flight Plan and ATC Clearance
- Elements of an IFR Clearance
- Abbreviated IFR Departure Clearance
- VFR on Top
- Approach Clearance
- VFR Restrictions to an IFR Clearance
- Composite Flight Plan
- Tower Enroute Control Clearance
- Departure Restrictions
- Clearance Readback
- Clearance Shorthand

### Completion Standards:

- Demonstrate understanding of pilot responsibilities and clearance procedures during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 3 questions for Section C with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to the Stage I Exam in Ground Lesson 9.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

**Stage I - Instrument Rating**  
**Ground Lesson 9**  
**Stage I Exam**

**Leading Edge Aviation**  
Version 2012

**Note: Students should review Chapters 1-3 prior to the Stage I exam.**

**Lesson Objective:**

- Administer the Stage I Exam covering the first three chapters of the Instrument/Commercial textbook, the applicable FARs, and NTSB Part 830 rules.

**Academic Content:**

**Stage I Exam**

- Advanced Human Factors Concepts
- Flight Instrument Systems
- Attitude Instrument Flying
- Instrument Navigation
- Instrument FARs
- Airports, Airspace, and Flight Information
- Air Traffic control System
- ATC Clearances

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

Score \_\_\_\_\_

**Completion Standards:**

- The lesson and stage are complete when the student has completed the Stage I Exam with a minimum passing score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before the student progresses to Stage II.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 10

Note: Students should read Chapter 4 Sections A and B prior to lesson 10.

### Lesson Objective:

- Learn the format and symbology used to present information on departure charts.
- Gain a working knowledge of departure procedures.

### Academic Content:

#### Section A - Departure Charts

- Obtaining Charts
- Departure Standards
- Instrument Departure Procedures (DPs)
- Obstacle Departure Procedures (ODPs)
- Standard Instrument Departures (SIDs)
- Pilot Nav SID
- Vector SID
- Chart Format and Symbology

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Section B - Departure Procedures

- Takeoff Minimums
- Departure Options
- Graphic Departure Procedures
- Textual Departure Procedures
- Radar Departures
- VFR Departures
- Selecting a Departure Method

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of instrument departure procedures and related considerations during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 4 questions for Section A and B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 11.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Plot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 11

Note: Students should read Chapter 5, Section A and B prior to Ground Lesson 11.

### Lesson Objective:

- Gain a working knowledge of enroute and area charts.
- Learn the symbology used to present information and the applicable procedures for IFR enroute operations.

### Academic Content:

#### Section A - Enroute and Area Charts

- Enroute Charts
- Front Panel
- Navigation Aids
- Victor Airways
- Communication
- Airports
- Airspace
- Area Charts

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

#### Section B - Enroute Procedures

- Enroute Radar Procedures
- Communication
- Reporting Procedures
- Enroute Navigation Using GPS
- Air Traffic Service Routes
- Enroute RNP
- Special Use Airspace
- Temporary Flight Restrictions
- IFR Cruising and Minimum Altitudes
- Descending from the Enroute Segment
- Reduced Vertical Separation Minimum

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of enroute charts as well as enroute navigation and communication procedures during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 5 questions for Section A and B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 12.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Plot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 12

Note: Students should read Chapter 5, Section C prior to Ground Lesson 12.

### Lesson Objective:

- Gain a working knowledge of holding patterns including entry, timing, and communication.

### Academic Content:

#### Section C - Holding Procedures

- Standard and Nonstandard Pattern
- Outbound and Inbound Timing
- Crosswind Correction
- Maximum Holding Speed
- Direct Entry
- Teardrop Entry
- Parallel Entry
- Visualizing Entry Procedures
- ATC Holding Instructions
- ATD (Option) ATC Holding Instructions
- Holding Entries
- VOR, GPS, and NDB Holding
- Standard and Nonstandard Holding
- Wind Correction and Ground Track

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of holding entry and procedures during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 5 questions for Section C with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 13.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 13

Note: Students should read Chapter 6, Sections A and B prior to Ground Lesson 13.

### Lesson Objective:

- Gain a working knowledge of arrival charts.
- Gain a working knowledge of arrival procedures and methods.

### Academic Content:

#### Section A - Arrival Charts

- Standard Terminal Arrival Route
- Interpreting the STAR
- Vertical Navigation Planning

#### Section B - Arrival Procedures

- Preparing for Arrival
- Reviewing the Approach
- Altitude
- Airspeed

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of arrival charts and procedures during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 6 questions for Sections A and B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 14.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_



# Stage II - Instrument Rating

## Ground Lesson 14

Note: Students should read Chapter 7, Section A prior to Ground Lesson 14.

### Lesson Objective:

- The student will begin to learn how to interpret and use information published on instrument approach charts.

### Academic Content:

#### Section A - Approach Charts

##### Approach Segments

- Initial Approach Segment
- Intermediate Approach Segment
- Final Approach Segment
- Missed Approach Segment

##### Chart Layout

- Heading Section
- Communications Section
- Briefing Information
- Minimum Safe Altitude
- Plan View
- Feeder Routes
- Profile View
- Stepdown Fix and Visual Descent Point
- Missed Approach Icons
- Conversion/Time and Speed Table
- Landing Minimums
- Aircraft Approach Categories
- Minimum Descent Requirements
- Visibility Requirements
- Inoperative Components

##### Airport Chart

- Heading and Communications Sections
- Plan View and Additional Runway Information
- Takeoff and Alternate Minimums

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of instrument approach charts during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 7 questions for Section A with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 15.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Plot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 15

Note: Students should read Chapter 7, Section B prior to Ground Lesson 15.

### Lesson Objective:

- Learn the procedures used to transition from the enroute segment to the approach segment.
- Increase understanding and knowledge of approach procedures.

### Academic Content:

#### Section B - Approach Procedures

#### Approach Segments

- Preparing for the Approach
- Approach Chart Review
- Approach Clearance
- Executing the Approach
- Straight-In Approaches
- Use of ATC Radar for Approaches
- Approaches Which Require Course Reversal
- Timed Approaches From a Holding Fix
- Final Approach
- Circling Approaches
- Sidestep Maneuver
- Missed Approach Procedures
- Visual and Contact Approaches

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of approach operations and procedures during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 7 questions for Section B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 16.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 16

Note: Students should read Chapter 8, Section A prior to Ground Lesson 16.

### Lesson Objective:

- Learn procedures and methods necessary to perform VOR and NDB approaches.

### Academic Content:

#### Section A - VOR and NDB Approaches

- VOR Approach Procedure
- Off-Airport Facility
- On-Airport Facility
- VOR/DME Approach Procedures
- NDB Approach Procedure
- Radar Vectors to the Approach

#### ATD (Option)

- VOR Approach Procedure
- VOR Missed Approach Procedure
- NDB Approach Procedure
- NDB Missed Approach Procedure

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of instrument approach charts during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 8 questions for Section A with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 17.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 17

Note: Students should read Chapter 8, Section B prior to Ground Lesson 17.

### Lesson Objective:

- Gain knowledge of ILS components and approach procedures.

### Academic Content:

#### Section B - ILS Approaches

- ILS Categories and Minimums
- ILS Components
- Inoperative Components
- Flying the ILS
- Straight-In (NoPT) ILS Approach
- ILS Approach With a Course Reversal
- ILS/DME Approach
- Radar Vectors to ILS Final
- ILS Approaches to Parallel Runways
- Simultaneous Converging Instrument Approach
- Localizer Approach
- Localizer Back Course Approach
- LDA, SDF, and MLS Approaches

#### ATD (Option)

- Localizer
- Glideslope
- ILS Marker Beacons
- Compass Locators
- Flying the ILS Approach
- Nonradar ILS Procedures
- Transition Via DME Arc
- Localizer Approach and Back Course Approach

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of the various methods of conducting an ILS approach during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 8 questions for Section B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 18.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 18

Note: Students should read Chapter 8, Section C prior to Ground Lesson 18.

### Lesson Objective:

- Become familiar with RNAV instrument approach systems and procedures.

### Academic Content:

#### Section C - RNAV Approaches

- Approach Design
- Terminal Arrival Area
- Waypoints
- Required Navigational Performance
- GPS Approaches
- LNAV/VNAV Approach Procedures
- LPV Approach
- GPS Equipment Requirements
- Receiver Autonomous Integrity Monitoring (RAIM)
- The Navigation Database
- GPS Navigation Considerations
- (RNAV) GPS Approach
- Radar Vectors to a GPS Approach

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of RNAV approach procedures and limitations during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 8 questions for Section C with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to the Stage II Exam in Lesson 19.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage II - Instrument Rating

## Ground Lesson 19

### Stage II Exam

Leading Edge Aviation

Version 2012

#### Lesson Objective:

- Administer the stage exam to evaluate the students's comprehension of enroute and terminal chart information, as well as the applicable procedures covered in chapters 4, 5, 6, 7, and 8.

#### Academic Content:

##### Stage II Exam

- Departure Charts and Procedures
- Enroute Charts and Procedures
- Holding Procedures
- Arrival Charts and Procedures
- Approach Charts and Procedures
- VOR and NDB Instrument Approaches
- ILS Approaches
- RNAV Approaches

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

Score \_\_\_\_\_

#### Completion Standards:

- The lesson and stage are complete when the student has completed the Stage II Exam with a minimum passing score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before the student progresses to Stage III.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Plot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 20

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Version 2012

Note: Students should read Chapter 9, Section A and B prior to Ground Lesson 20.

### Lesson Objective:

- Become familiar with the factors affecting weather patterns and weather hazards related to flight operations.

### Academic Content:

#### Section A - Weather Factors

- The Atmosphere
- Atmospheric Circulation
- Pressure and Wind Patterns
- Moisture, Precipitation, and Stability
- Types of Clouds
- Airmass
- Fronts
- High Altitude Weather

#### Section B - Weather Hazards

- Thunderstorms
- Thunderstorm Avoidance
- Low Level Turbulence
- Turbulence
- Wake Turbulence
- Clear Air Turbulence
- Mountain Wave Turbulence
- Reporting Turbulence
- Wind Shear
- Low Visibility
- Volcanic Ash
- Icing
- Hydroplaning
- Cold Weather Operations

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of weather factors and weather hazards during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 9 questions for Section A and B with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 21.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 21

Note: Students should read Chapter 9, Section C prior to Ground Lesson 21.

### Lesson Objective:

- Learn to retrieve and interpret printed weather reports and forecasts.

### Academic Content:

#### Section C - Printed Reports and Forecasts

- Aviation Routine Weather Report (METAR)
- Radar Weather Reports
- Pilot Weather Reports
- Terminal Aerodrome Forecast
- Aviation Area Forecast
- Winds and Temperatures Aloft Forecast
- Severe Weather Reports and Forecasts

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of information contained in printed reports and forecasts during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 9 questions for Section C with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 22.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_



# Stage III - Instrument Rating

## Ground Lesson 22

Note: Students should read Chapter 9, Section D prior to Ground Lesson 22.

### Lesson Objective:

- Understand the information displayed on graphic weather products and how to use each product.

### Academic Content:

#### Section D - Graphic Weather Products

##### Graphic Reports

- Surface Analysis Chart
- Weather Depiction Chart
- Radar Summary Chart
- Satellite Weather Pictures
- Composite Moisture Stability Chart
- Constant Pressure Analysis Chart

##### Graphic Forecasts

- Low-Level Significant Weather Prog.
- High-Level Significant Weather Prog.
- Convective Outlook Chart
- Forecast Winds and Temperatures Aloft Chart
- National Convective Weather Forecast
- Volcanic Ash Forecast Transport and Dispersion Chart

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate ability to interpret and integrate information presented in graphic weather products during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 9 questions for Section D with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 23.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 23

Note: Students should read Chapter 9, Section E prior to Ground Lesson 23.

### Lesson Objective:

- Learn how to access preflight and in-flight sources of weather information.
- Learn how to interpret and use weather information for planning and in-flight purposes.

### Academic Content:

#### Section E - Sources of Weather Information

##### Preflight Weather Sources

- Flight Service Station
- Preflight Weather Briefing
- Telephone Information Briefing Service
- Direct User Access Terminal System
- Private Industry Sources
- Internet Sources

##### In-Flight Weather Sources

- AIRMETs and SIGMETs
- Convective SIGMETs
- Enroute Flight Advisory Service
- Flight Service
- Center Weather Advisories
- Hazardous In-Flight Weather Advisory Service
- Weather Radar Services
- Automated Surface Observing System (ASOS)
- Automated Weather Observing System (AWOS)

##### Airport Chart

- Weather Radar
- Lightning Detection Systems

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of preflight and in-flight weather sources and their uses during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 9 questions for Section E with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 24.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Plot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 24

Note: Students should read Chapter 10, Section A prior to Ground Lesson 24.

### Lesson Objective:

- Learn to recognize emergency situations and perform the correct emergency procedures.

### Academic Content:

#### Section A - IFR Emergencies

- Declaring an Emergency
- Minimum Fuel
- Gyroscopic Instrument Failure
- Communication Failure
- Emergency Approach Procedures
- Malfunction Reports

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate ability to recognize and respond appropriately to emergency situations during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 10 questions for Section A with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 25.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 25

Leading Edge Aviation  
Version 2012

Note: Students should read Chapter 10, Sections B & C prior to Ground Lesson 25.

### Lesson Objective:

- Obtain the knowledge necessary to successfully plan an IFR flight and recognize the factors related to effective decision making.

### Academic Content:

#### Section A - IFR Decision Making

- Applying the Decision-Making Process
- The IFR Accident
- Poor Judgment Chain
- Assessing Risk
- Pilot-In-Command Responsibility
- Hazardous Attitudes
- Crew Relationships
- Communication
- Resource Use
- Workload Management
- Situational Awareness
- Controlled Flight Into Terrain

#### Section C - IFR Flight Planning

- Flight Overview
- Route Selection
- Flight Information Publications
- Weather Considerations
- Altitude Selection
- Completing the Navigation Log
- Filing the Flight Plan
- Closing the IFR Flight Plan

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- Demonstrate understanding of IFR flight planning and factors affecting the decision making process during oral quizzing by the instructor at completion of lesson.
- Student completes Chapter 10 questions for Section B and C with a minimum passing score of 80%, and the instructor reviews incorrect responses to ensure complete understanding before the student progresses to Ground Lesson 26.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 26

Leading Edge Aviation  
Version 2012

Note: Students should review Chapter 9-10, prior to the Stage III Exam.

### Lesson Objective:

- Administer the stage exam to evaluate the student's comprehension of the information in Chapters 9 and 10 covering weather factors, weather hazards, and sources of weather information, as well as decision making, IFR flight planning, and emergency procedures.

### Academic Content:

#### Stage III Exam

- Meteorology
- IFR Flight considerations

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

Score \_\_\_\_\_

### Completion Standards:

- This lesson and stage are complete when the student has completed the Stage III Exam with a minimum passing Score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before the student progresses to the End-of-Course Exam.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

# Stage III - Instrument Rating

## Ground Lesson 27

**Leading Edge Aviation**  
Version 2012

Note: Students should review Chapters 1-10 in preparation for the End-of-Course Exam.

### Lesson Objective:

- Administer and evaluate the student's comprehension of academic material presented in Chapters 1 through 10 in preparation for the FAA Instrument Rating Airman Knowledge Test.

### Academic Content:

- Principles of Instrument Flight
- The Flight Environment
- Departure Charts and Procedures
- Enroute Charts and Procedures
- Arrival Charts and Procedures
- Approach Charts and Procedures
- Instrument Approaches
- Meteorology
- IFR Flight Considerations

Date Completed \_\_\_\_\_

Time \_\_\_\_\_

### Completion Standards:

- The lesson and Stage are complete when the student has completed the Instrument Rating End-of-Course Exam with a minimum of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before the student progresses to the FAA Instrument Rating Airman Knowledge Test.

I certify that the aforementioned training has been conducted and/or received in accordance with Leading Edge Aviation Standards and the current 141 approved Jeppesen Private Pilot Syllabus.

Instructor \_\_\_\_\_

Date \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_