

Washington International Flight Academy

Instrument Rating FAR 61

Training Syllabus

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**Washington International Flight Academy**

**Required Course Materials**

**Instrument Rating FAR Part 61**

All items available at our in-house pilot shop.

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| --- |
| **Item** |
| Approach Plates |
|  |
| FAA Instrument Procedures Handbook & Instrument Flying Handbook |
| **-OR**- |
| Jepessen Instrument / Commercial Manual |
|  |
| Gleim FAA knowledge Test Prep Book |
|  |
| Low Enroute Charts  |
|  |
| Airport / Facility Directory |
|  |
| Navigation Planning Sheets |
|  |
| E6-B Flight Calculator / CX-2 |
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| Pilot Operating Handbook Cessna 172 |
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| Practical Test Standards PPL |
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**To be eligible for an Instrument Rating, a person must:**

**Be a US Citizen or Legal Resident or, if not, the Student must apply to the Alien Flight Student Program and receive Permission to initiate flight training prior to commencement of flight lessons.**

**Further requirements of FAR 61.65:**
(1) Hold at least a current private pilot certificate, or be concurrently applying for a private pilot certificate, with an airplane, helicopter, or powered-lift rating appropriate to the instrument rating sought;

(2) Be able to read, speak, write, and understand the English language. If the applicant is unable to meet any of these requirements due to a medical condition, the Administrator may place such operating limitations on the applicant's pilot certificate as are necessary for the safe operation of the aircraft;

(3) Receive and log ground training from an authorized instructor or accomplish a home-study course of training on the aeronautical knowledge areas of paragraph (b) of this section that apply to the instrument rating sought;

(4) Receive a logbook or training record endorsement from an authorized instructor certifying that the person is prepared to take the required knowledge test;

(5) Receive and log training on the areas of operation of paragraph (c) of this section from an authorized instructor in an aircraft, flight simulator, or flight training device that represents an airplane, helicopter, or powered-lift appropriate to the instrument rating sought;

(6) Receive a logbook or training record endorsement from an authorized instructor certifying that the person is prepared to take the required practical test;

(7) Pass the required knowledge test on the aeronautical knowledge areas of paragraph (b) of this section; however, an applicant is not required to take another knowledge test when that person already holds an instrument rating; and

(8) Pass the required practical test on the areas of operation in paragraph (c) of this section in—

(i) An airplane, helicopter, or powered-lift, appropriate to the rating sought;

**FAR 61.65 (d)**

**Aeronautical experience.**

(1) Except as provided in paragraph (g) of this section, 50 hours of cross-country flight time as pilot in command, of which 10 hours must have been in an airplane; and

(2) Forty hours of actual or simulated instrument time in the areas of operation listed in paragraph (c) of this section, of which 15 hours must have been received from an authorized instructor who holds an instrument-airplane rating, and the instrument time includes:

(i) Three hours of instrument flight training from an authorized instructor in an airplane that is appropriate to the instrument-airplane rating within 2 calendar months before the date of the practical test; and

(ii) Instrument flight training on cross country flight procedures, including one cross country flight in an airplane with an authorized instructor, that is performed under instrument flight rules, when a flight plan has been filed with an air traffic control facility, and that involves--

(A) A flight of 250 nautical miles along airways or by directed routing from an air traffic control facility;

(B) An instrument approach at each airport; and

(C) Three different kinds of approaches with the use of navigation systems.

(h) **Use of flight simulators** or flight training devices. If the instrument time was provided by an authorized instructor in a flight simulator or flight training device--

(1) A maximum of 30 hours may be performed in that flight simulator or flight training device if the instrument time was completed in accordance with part 142 of this chapter; or

(2) A maximum of **20** hours may be performed in that flight simulator or flight training device if the instrument time was not completed in accordance with part 142 of this chapter.

|  |
| --- |
| **Lesson Time Allocation** |
| **Class Discussion** | **Stage Exam / Check** |  | **Day Local** | **Day Cross County** | **Simulator** | **Instrument Time** |
| 1.5 |  | GL 1 – Flight Instrument Systems |  |  |  |  |
| 1.0 |  | GL 2 – Attitude Instrument Flying |  |  |  |  |
|  |  | FL 1 – Full Panel and IFR Systems | 1.0 |  | (1.0) | 1.0 |
|  |  | FL 2 – Partial Panel | 1.0 |  | (1.0) | 1.0 |
| 1.5 |  | GL 3 – Instrument Navigation |  |  |  |  |
|  |  | FL 3 – VOR Navigation  | 1.0 |  | (1.0) | 1.0 |
|  |  | FL 4 – VOR Navigation | 1.0 |  | (1.0) | 1.0 |
| 1.0 |  | GL 4 – Holding procedures |  |  |  |  |
|  |  | FL 5 – Holding | 1.5 |  | (1.5) | 1.5 |
|  |  | FL 6 – Holding | 1.5 |  | (1.5) | 1.5 |
| 2.0 |  | GL 5 – Instrument Approach Plates and Procedures |  |  |  |  |
|  |  | FL 7 – VOR Approaches  | 1.5 |  | (1.5) | 1.5 |
|  |  | FL 8 – ILS Approaches | 1.5 |  | (1.5) | 1.5 |
| 1.5 |  | GL 6 – Departure and Arrival Procedures |  |  |  |  |
|  |  | FL 9 – GPS Approaches | 1.5 |  | (1.5) | 1.5 |
| 1.0 |  | GL 7 – Low En-route charts |  |  |  |  |
|  |  | FL 10 – Review VOR, ILS, GPS approaches and Holds | 1.5 |  | (1.5) | 1.5 |
|  |  | **FL 11 – Stage Check: Approaches, Tracking and Holds**  | **1.5** |  | **(1.5)** | **1.5** |
| 1.0 |  | GL 8 – IFR ATC Clearances  |  |  |  |  |
|  |  | FL 12 - IFR Cross Country |  | 2.5 |  | 2.5 |
|  |  | FL 13 - IFR Cross Country  |  | 2.5 |  | 2.5 |
|  |  | FL 14 – IFR Cross Country 250 Nautical Miles |  | 3.0 |  | 3.0 |
|  |  | FL 15 – IFR Cross Country |  | 2.5 |  | 2.5 |
|  |  | FL 16 – IFR Cross Country |  | 2.5 |  | 2.5 |
| 1.0 |  | GL 9 – IFR Regulations  |  |  |  |  |
|  |  | FL 17 – Holds and Partial Panel Approaches | 1.5 |  | (1.5) | 1.5 |
|  |  | FL 18 – IFR Cross Country |  | 2.5 |  | 2.5 |
|  |  | FL 19 – IFR Cross Country |  | 2.5 |  | 2.5 |
|  |  | FL 20 – IFR Practical Test Prep | 1.5 |  |  | 1.5 |
|  |  | FL 21 – IFR Practical Test Prep | 1.5 |  |  | 1.5 |
|  |  | FL 22 – IFR Practical Test Prep | 1.5 |  |  | 1.5 |
| 1.5 |  | GL 10 – IFR Oral Test Prep |  |  |  |  |
| 1.0 |  | **FL 23 – IFR End of Course Flight Check** | **2.0** |  |  | **2.0** |
|  |  |  |  |  |  |  |
| **14.0** |  | **Course Totals** | **22.5** | **18** | **(14.5)** | **40.5** |

* Numbers in ( ) are optional simulator time instead of airplane time.



Washington International Flight Academy

Instrument Rating FAR 61

Ground Lesson Plans

|  |  |
| --- | --- |
| **Ground Lesson 1** | **Proposed time: 1.5 Hours** |
|  |  |
| **Flight Instrument Systems** |  |

**Objective:**

* The student will gain a working knowledge of the function and use of the flight instrument components and systems.
* The student will become familiar with the limitations and common errors of the flight instrument systems and components.

**Content:**

|  |  |
| --- | --- |
| **Flight Instrument Systems*** FAA instrument Requirements
* Pilots Operating Handbook

**Gyroscopic Flight Instruments*** System Operation
* System Errors
* Instrument Check

**Magnetic Compass*** System Operation
* System Errors
* Instrument Check
 | **Pitot Static Instruments*** System Operation
* System Errors
* Instrument Check
* V-Speeds & Color Codes

**Integrated Displays*** Primary Flight Display (PFD)
* Multi-Function Flight Display (MFD)
* Malfunctions and Failures
 |

**Completion Standards:**

* The Student will demonstrate understanding of IFR instruments requirements as well as instrument flight systems, instrument operation and instrument errors during oral quizzing

with the instructor.

**Study Assignment: Attitude Instrument Flying**

* IF FAA Material (IFH): Chapter 4, Section I
* IF JEPESSEN: Chapter 2, Section B

|  |  |
| --- | --- |
| **Ground Lesson 2** | **Proposed time: 1.0 Hours** |
|  |  |
| **Attitude Instrument Flying** |  |

**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 the instrument system failures and partial panel flight procedures.

**Content:**

|  |  |
| --- | --- |
| **Attitude Instrument Flying*** Instrument Cross-Check
* Instrument Interpretation
* Aircraft Control
* Control and Performance Concept
* Primary/ Support Concept

**Basic Flight Maneuvers*** Straight and Level Flight
* Standard Rate Turns
* Constant Airspeed Climbs
* Constant Rate Climbs
* Constant Airspeed Descents
* Constant Rate Descents
* Level off From Climbs / Descents
* Climbing and Descending turns
* Stalls
 | **Coping with Instrument Failures*** Identifying an Instrument Failure
* Attitude Indicator Failure
* Heading Indicator Failure
* Partial Panel Flying
* Magnetic Compass Turns
* Timed Turns
* Pitot-Static Instrument Failures

**Introduction to the Simulator*** Orientation and Flight Familiarization
* Overview of the Flight Controls
* Short Intro Flight in the Simulator
 |

**Completion Standards:**

* The Student will demonstrate understanding of basic attitude instrument flight during oral quizzing by the instructor at the completion of the lesson.
* The student will exhibit knowledge of partial panel procedures.

**Study Assignment: Instrument Navigation**

* IF FAA Material (IPH): Chapter 7, Pages 1-20
* IF JEPESSEN: Chapter 2, Section C

|  |  |
| --- | --- |
| **Ground Lesson 3** | **Proposed time: 1.5 Hours** |
|  |  |
| **Instrument Navigation** |  |

**Objective:**

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

**Content:**

|  |  |
| --- | --- |
| **VOR Navigation*** Horizontal Situation Indicator
* Intercepting a radial
* Tracking
* Determining your progress
* Time and Distance to Station
* Station Passage
* VOR Limitations
* Distance Measuring Equipment
* DME Arcs

**ADF Navigation*** Automatic Direction Finder
* Radio Magnetic Indicator
* Intercepting a Bearing
* Tracking
 | **VOR and ADF Operational Considerations*** Ground Facilities
* VOR Checks
* Identification

**Area Navigation (RNAV)*** Flight Management Systems
* Inertial Navigation Systems

**GPS Navigation*** Regulatory Requirements
* Programming and flying routes
* Course deviation indications
 |

**Completion Standards:**

* The Student will demonstrate understanding of the use and limitations of navigation systems during oral quizzing by the instructor and the completion of the lesson.

**Study Assignment: Holding Procedures**

* IF FAA Material (IFH): Chapter 10, Pages 9-12
* IF JEPESSEN: Chapter 5, Section C

|  |  |
| --- | --- |
| **Ground Lesson 4** | **Proposed time: 1.0 Hours** |
|  |  |
| **Holding Procedures** |  |

**Objective:**

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

**Content:**

|  |  |
| --- | --- |
| **Holding Procedures*** Standard and Nonstandard Pattern
* Outbound and inbound timing
* Crosswind Correction
* Maximum Holding Speeds
* Direct Entry
* Teardrop Entry
* Parallel Entry
* Visualizing Entry Procedures
* ATC Holding Instructions
 |  |

**Completion Standards:**

* The Student will demonstrate understanding of holding procedures during oral quizzing by the instructor at the completion of the lesson.

**Study Assignment: Instrument Approach Plates and Procedures**

* IF FAA Material (IPH): Chapter 5 (Instructor, please look over the chapter and provide guidance to student)
* IF JEPESSEN: Chapter 7, Section A & B

|  |  |
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| **Ground Lesson 5** | **Proposed time: 2.0 Hours** |
|  |  |
| **Instrument Approach Plates and Procedures** |  |

**Objective:**

* The Student will begin to learn how to interpret and use information on instrument approach charts
* The Student will learn the procedures to transition of the En-route segment to the approach segment.

**Content:**

|  |  |
| --- | --- |
| **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
* Step-down 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 Info
* Take Off and Alternate Minimums

**15 MINUTE BREAK** **Approach Procedures*** Preparing 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
 |

**Completion Standards:**

* The Student will demonstrate understanding of Instrument Approach Charts and Approach Operations during oral quizzing by the instructor at the completion of the lesson.

**Study Assignment: Departure and Arrival Procedures**

* IF FAA Material (IFH): Chapter 10, Pages 5-9 & IPH Chapter 2 Pages 12-34 & Chapter 4
* IF JEPESSEN: Chapter 4 & Chapter 6

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| --- | --- |
| **Ground Lesson 6** | **Proposed time: 1.5 Hours** |
|  |  |
| **Departure and Arrival Procedures** |  |

**Objective:**

* The Student will learn the format and symbology used to present information on Departure and Arrival charts
* The Student will gain a working knowledge of Departure and Arrival Procedures.

**Content:**

|  |  |
| --- | --- |
| **Departure Charts*** Obtaining Charts
* Chart Format and Symbology
* Departure Standards
* Instrument Departure Procedures (DP’s)
* Obstacle Departure Procedures (ODP’s)
* Standard Instrument Departures (SID’s)
* Pilot Nav SID
* Vector SID

**Departure Procedures*** Take Off Minimums
* Departure Options
* Graphic Departure Procedures
* Textual Departure Procedures
* Radar Departures
* VFR Departures
* Selecting a Departure Method
 | **10 MINUTE BREAK** **Arrival Charts*** Standard Terminal Arrival Route
* Interpreting the STAR
* Vertical Navigation Planning

**Arrival Procedures*** Preparing for the Arrival
* Reviewing the Approach
* Altitude
* Airspeed
 |

**Completion Standards:**

* The Student will demonstrate understanding of Departure and Arrival Procedures through oral quizzing by the instructor at the completion of the lesson.

**Study Assignment: Low En-Route Charts and Procedures**

* IF FAA Material (IPH): Chapter 3
* IF JEPESSEN: Chapter 5 Section A & B

|  |  |
| --- | --- |
| **Ground Lesson 7** | **Proposed time: 1.0 Hours** |
|  |  |
| **Low En-Route Charts and Procedures** |  |

**Objective:**

* The Student will gain a working knowledge of enroute and area charts
* The Student will learn the symbology used to present information and the applicable procedures for IFR enroute operations

**Content:**

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

**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 Minimums
 |  |

**Completion Standards:**

* The Student will demonstrate understanding of Enroute Charts and Enroute Navigation and Communication procedures during oral quizzing by the instructor at the completion of the lesson.

**Study Assignment: IFR ATC Clearances**

* IF FAA Material (IFH): Chapter 10 pages 2-5 AIM Chapter 4,Section 4 articles 1-11
* IF JEPESSEN: Chapter 3 Section C

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| **Ground Lesson 8** | **Proposed time: 1.0 Hours** |
|  |  |
| **IFR ATC Clearances**  |  |

**Objective:**

* The Student will become familiar with ATC Clearances.
* The student will learn and gain experience use clearance “shorthand”.

**Content:**

|  |  |
| --- | --- |
| **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:**

* The Student will demonstrate understanding of IFR ATC Clearances during oral quizzing by the instructor at the completion of the lesson.

**Study Assignment: IFR Regulations**

**FAR**:

* Part 1
* Part 61.65
* Part 91.167 through Part 91.193
* NTSB 830

|  |  |
| --- | --- |
| **Ground Lesson 9** | **Proposed time: 1.0 Hours** |
|  |  |
| **Instrument FAR’s**  |  |

**Objective:**

* The student will learn become familiar with the Federal Aviation Regulations related to Instrument Flight.
* The student will understand the information from NTSB Part 830.

**Content:**

|  |  |
| --- | --- |
| **FAR**: * Part 1
* Part 61.65
* Part 91.167 through Part 91.193
* NTSB 830
 |  |

**Completion Standards:**

* The Student will demonstrate understanding of the Instrument FAR’s during Oral Quizzing at the completion of the lesson.

**Study Assignment: IFR Oral Prep**

* **IFR Oral Prep Booklet**

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| **Ground Lesson 10** | **Proposed time: 1.5 Hours** |
|  |  |
| **Instrument Oral Test Prep**  |  |

**Objective:**

* Quiz student on the topics in preparation for the Instrument Check Ride Oral Exam

**Content:**

|  |  |
| --- | --- |
| **FAR**: * Flight Instrument Systems
* Attitude Instrument Flying
* Instrument Navigation
* Holding Procedures
* Instrument approach Plates
* Low Enroute Charts
* IFR clearances
* LAHSO
* Weather & Weather Hazards
* FAR 61 and 91
* Lost Communication procedures
* Emergency Procedures
* Aircraft Systems
* Aircraft Performance
* IFR Currency and PIC Currency
 |  |

**Completion Standards:**

* The Student will demonstrate understanding of the Instrument FAR’s during Oral Quizzing at the completion of the lesson.

**Study Assignment: IFR Oral Prep**

* **IFR Oral Prep Booklet**



Washington International Flight Academy

Instrument Rating FAR 61

Flight Lesson Plans

|  |  |
| --- | --- |
| **Flight Lesson 1** | **Proposed time: 1.0 Dual Local (1.0 Instrument)** |
|  |  |
| **Full Panel and IFR Systems** |  |

**Lesson Objective:**

* Become familiar with the instrument training airplane.
* Briefly review normal preflight, takeoff, and landing procedures.
* Introduce aircraft instrument systems, equipment, and preflight checks necessary for IFR flight.
* Practice attitude instrument flight with emphasis on precise aircraft control solely by instrument reference including basic instrument flight maneuvers.

**Review:**

|  |  |
| --- | --- |
| **Preflight Preparation*** Aircraft Certificates and Documents
* Aircraft Logbooks
* Airworthiness Requirements
* Aircraft Performance
* Aircraft Weight and Balance
* Operation of Systems

**Normal Procedures*** Cockpit Resource Management
* Use of Checklists
* Positive Exchange of Flight Controls
* Engine Starting
* Collision Avoidance Procedures and CFIT
* Controlled Flight Into Terrain (CFIT) Prevention
* Normal and Crosswind Taxiing
* Normal Takeoffs and Landings
* Crosswind Takeoffs and Landings
* Radio Communications and ATC Light Signals
* Aeronautical Decision Making, Judgment, Flight Scenarios, Risk Management
 | * Single-Pilot Resource Management
* Runway Incursion
* Situational Awareness

**Introduce:** **Full Panel Instrument*** Straight-and-Level Flight
* Change of Airspeed
* Standard-Rate Turns
* Constant Airspeed Climbs
* Climbing Turns
* Constant Airspeed Descents
* Descending Turns
* Power-Off Stalls
* Power-On Stalls
* Maneuvering During Slow Flight
* Recovery From Unusual Flight Attitudes
* Operations in Turbulence
 |

**Completion Standards**

* The student will exhibit a basic understanding of systems and equipment related to IFR operations.
* During the flight, the student will maintain altitude + /– 200 feet, heading + / – 15 degrees, airspeed + /– 15 knots, and bank angles within + /– 5 degrees during turns.

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| --- | --- |
| **Flight Lesson 2** | **Proposed time: 1.0 Dual Local (1.0 Instrument)** |
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| **Partial Panel** |  |

**Lesson Objective:**

* Review full panel instrument flying in preparation for partial panel flight.
* Introduce partial panel attitude instrument flying including related systems and equipment malfunctions.

**Review:**

* Aircraft Systems Related to IFR Operations
* Aircraft Flight Instruments and Navigation

Equipment

* Instrument Cockpit Check
* Autopilot Use (If airplane so equipped)

|  |  |
| --- | --- |
| **Full Panel Instrument*** Straight-and-Level Flight
* Change of Airspeed
* Standard-Rate Turns
* Constant Airspeed Climbs
* Constant Airspeed Descents
* Power-Off Stalls
* Power-On Stalls
* Maneuvering During Slow Flight
* Recovery From Unusual Flight Attitudes
* Operations in Turbulence
* Single-Pilot Resource Management
* Runway Incursions
* Situational Awareness
 | **Introduce:**  **Systems and Equipment Malfunctions*** Electrical System Failure
* Loss of Communications
* Vacuum Pump Failure
* Gyroscopic Instrument Failure
* Pitot-Static Instrument Failure

 **Partial Panel Instrument*** Straight-and-Level Flight
* Standard-Rate Turns
* Change of Airspeed
* Constant Airspeed Climbs
* Constant Airspeed Descents
 |

**Completion Standards:**

* The student will precisely control the airplane using full panel instrument reference.
* Recognize the approach of stalls and demonstrate the correct recovery procedures from unusual flight attitudes.
* The student will begin to recognize and understand the effect of instrument systems and equipment malfunctions.
* Recognize the change in instrument crosscheck necessary to maintain aircraft control while using partial panel procedures.

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| **Flight Lesson 3** | **Proposed time: 1.0 Dual Local (1.0 Instrument)** |
|  |  |
| **VOR Navigation Orientation** |  |

**Lesson Objective:**

* Continue to develop proficiency in basic attitude instrument maneuvers.
* Gain an understanding of VOR orientation as well as VOR radial interception and tracking.

**Review:**

|  |
| --- |
| **Partial Panel Instrument*** Straight-and-Level Flight
* Standard-Rate Turns
* Change of Airspeed
* Constant Airspeed Climbs
* Constant Airspeed Descents

**Systems and Equipment Malfunctions*** Electrical System Failure
* Loss of Communications
* Vacuum Pump Failure
* Gyroscopic Instrument Failure
* Pitot-Static Instrument Failure

**Introduce:** **VOR*** VOR Equipment Check
* Proper Station Identification
* VOR Orientation
* VOR Radial Interception and Tracking
* Intercepting and Tracking DME Arcs
 |

**Completion Standards**

* Using full panel and partial panel instrument reference, the student will maintain altitude +/- 100 feet, heading +/- 10 degrees, airspeed +/- knots, and desired descent and climb rate +/- 100 feet per minute.
* The student will display basic knowledge of VOR radial interception and tracking.

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| --- | --- |
| **Flight Lesson 4** | **Proposed time: 1.0 Dual Local (1.0 Instrument)** |
|  |  |
| **VOR Navigation and GPS Orientation** |  |

**Lesson Objective:**

* Gain additional experience and understand of VOR orientation and radial interception and tracking.
* Learn to program and use GPS equipment for IFR navigation.

**Review:**

|  |  |  |  |
| --- | --- | --- | --- |
|  **VOR*** VOR Orientation
* VOR Radial Interception and Tracking
* Intercepting and Tracking DME Arcs

**Introduce:**

|  |  |
| --- | --- |
| **GPS*** GPS Preflight Check
* GPS Programming
* GPS Orientation
* GPS Course Interception and Tracking
 |  |

 |  |

**Completion Standards**

* The student will demonstrate increased competency in basic VOR navigation procedures.
* The student will exhibit understanding of basic GPS navigation procedures.
* During the flight, the student will maintain altitude + /– 100 feet, heading + / – 10 degrees, airspeed + /– 15 knots, and desired descent and climb rate +/- 100 feet per minute while performing the listed procedures.

|  |  |
| --- | --- |
| **Flight Lesson 5** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **Holding Procedures**  |  |

**Lesson Objective:**

* Review instrument systems and equipment malfunctions.
* The student should become familiar with VOR standard and nonstandard holding patterns.
* The student should become familiar with GPS standard and nonstandard holding patterns.

**Review:**

|  |  |
| --- | --- |
| **GPS*** GPS Preflight Check
* GPS Programming
* GPS Orientation
* GPS Course Interception and Tracking

**Introduce:** **VOR Holding*** Standard Holding
* Nonstandard Holding

**GPS Holding*** Standard holding
* Nonstandard holding
 |  |

**Completion Standards**

* The student will demonstrate increased competency in basic GPS navigation procedures.
* The student will demonstrate a basic understanding and proficiency in performing VOR and GPS holding pattern procedures.
* The student should maintain orientation at all times during both standard and nonstandard holding procedures.

|  |  |
| --- | --- |
| **Flight Lesson 6** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **Localizer, DME, and Intersection Holdings**  |  |

**Lesson Objective:**

* The student should demonstrate increased proficiency in performing VOR and GPS holding patterns.
* Introduce localizer, DME holding, and intersection holding.

**Review:**

|  |  |
| --- | --- |
| **VOR Holding*** Standard Holding
* Nonstandard Holding

**GPS Holding*** Standard holding
* Nonstandard holding

**Introduce:*** Standard and Nonstandard Localizer Holding
* DME Holding
* Intersection holding
 |  |

**Completion Standards**

* The student will demonstrate the necessary skill and knowledge to perform the correct holding pattern entries and procedures for standard and nonstandard VOR and GPS holding patterns.
* The student will exhibit basic understanding and ability to fly standard and nonstandard localizer, DME, and intersection holding patterns using the appropriate entry, timing, and wind correction procedures.
* The student should maintain the desired altitude +/- 100 feet, assigned airspeed +/- 10 knots and heading +/- 10 degrees, within ¾ scale deflection of the CDI during the hold.

|  |  |
| --- | --- |
| **Flight Lesson 7** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **VOR Approaches**  |  |

**Lesson Objective:**

* Review previously learned holding pattern procedures and systems/equipment malfunctions.
* Familiarize the student with VOR approach procedures and missed approach planning.

**Review:**

* Holding procedures
* Systems and Equipment Malfunction

|  |  |
| --- | --- |
| **Introduce:*** VOR Approaches
* Proper Station Identification
* Approach Procedures to Straight-In Landing Minimums
* Missed Approach Procedures
 |  |

**Completion Standards**

* Demonstrate proficiency in the review of maneuvers and procedures.
* The student also should be able to:
1. Explain and use the information displayed on the approach charts.
2. Execute several initial and intermediate approach segments to arrive at the final approach fix.
3. Complete the final approach and let down to the missed approach fix.
4. Demonstrate the missed approach procedure as appropriate to the published chart used.

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| --- | --- |
| **Flight Lesson 8** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **ILS Approaches**  |  |

**Lesson Objective:**

* Begin to develop proficiency in VOR approach procedures and missed approach planning.
* Become familiar with ILS approach procedures.

**Review:**

* VOR Approaches
* Approach Procedures to Straight-In Landing minimums
* Missed Approach Procedures
* Intercepting and Tracking DME Arcs

|  |  |
| --- | --- |
| **Introduce:*** Precision Approaches (PA) Procedures
* Proper Station Identification
* ILS Approaches
* Front and Back Course Localizer Approaches
 |  |

**Completion Standards**

* The student should exhibit knowledge of front and back course localizer approach procedures while maintaining specific descent rates and altitudes.
* During ILS approaches, the student should demonstrate localizer tracking, intercepting and maintaining the glide slope, and using power and attitude changes to control airspeed and descent rates.
* The student will maintain an altitude of +/- 200 feet on the initial and intermediate approach segments.
* On the final approach segment, the student should maintain heading +/- 10 degrees and allow less than ¾ scale deflection of the CDI, airspeed +/- 10 knots, and altitude that is not more than 100 feet above and 0 feet below the MDA.

|  |  |
| --- | --- |
| **Flight Lesson 9** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **GPS Approaches**  |  |

**Lesson Objective:**

* Begin to develop proficiency in ILS precision approach procedures and missed approach planning.
* Familiarize the student with GPS approach procedures.

**Review:**

* Precision Approaches (PA) Procedures
* Proper Station Identification
* ILS Approaches
* Front and Back Course Localizer Approaches

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| --- | --- |
| **Introduce:*** GPS Approaches
* Approach Procedures to Circling Landing Minimums
* Landing From a Straight-In or Circling Approach Procedure
* Visual Descent Point
* Land and Hold Short Operations
 |  |

**Completion Standards**

* The student should exhibit knowledge of front and back course localizer approach procedures while maintaining specific descent rates and altitudes.
* During GPS approaches, the student should demonstrate CDI tracking, intercepting and maintaining the glide slope (LPV), and using power and attitude changes to control airspeed and descent rates.
* The student will maintain an altitude of +/- 200 feet on the initial and intermediate approach segments.
* On the final approach segment, the student should maintain heading +/- 10 degrees and allow less than ¾ scale deflection of the CDI, airspeed +/- 10 knots, and altitude that is not more than 100 feet above and 0 feet below the MDA.

|  |  |
| --- | --- |
| **Flight Lesson 10** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **Review VOR, ILS, and GPS Approaches and Holds**  |  |

**Lesson Objective:**

* The student should review instrument approach procedures as well as holding pattern entries and procedures in preparation for the stage exam.

**Review:**

* VOR Holding
* GPS Holding
* Localizer Holding
* VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedure
* Unusual Attitude
* Slow Flight
* Stalls

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**Completion Standards**

* The student will demonstrate proficiency in all holding and approach procedures in preparation for the stage check.

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| **Flight Lesson 11** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **Stage Check: Approaches, Tracking, and Holds** |  |

**Lesson Objective:**

* The chief instructor, assistant chief, or designated check instructor will evaluate the student’s proficiency in the proper execution of holding patterns and instrument approach procedures.

**Review:**

* Unusual Attitudes
* Slow Flight
* Stalls
* VOR Holding
* GPS Holding
* Localizer Holding
* Intersection and DME Holding
* VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedure
* Approach Procedures to Straight-In Minimums
* Land and Hold Short Operations

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**Completion Standards**

* The student should demonstrate instrument pilot proficiency excluding partial panel approaches as outlined in the current FAA Instrument Rating Practical Test Standards in preparation for IFR Cross Countries.

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| --- | --- |
| **Flight Lesson 12** | **Proposed time: 2.5 Dual Cross Country (2.5 Instrument)** |
|  |  |
| **Introduction to IFR Cross Country** |  |

**Lesson Objective:**

* The student will be introduced to IFR cross-country procedures by conducting an IFR cross-country over 50 nautical miles from the original point of departure with an emphasis on planning and departure procedures.
* The student will develop an understanding of the appropriate emergency procedures for enroute IFR operations.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (If needed)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures

**Introduce:** **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making
 |

**Completion Standards**

* The student will exhibit knowledge of the procedures involved in cross-country planning, filing IFR flight plans, and obtaining IFR clearances.

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| --- | --- |
| **Flight Lesson 13** | **Proposed time: 2.5 Dual Cross Country (2.5 Instrument)** |
|  |  |
| **IFR Cross Country** |  |

**Lesson Objective:**

* Perform an IFR cross-country over 50 nautical miles from the original point of departure, becoming familiar with IFR flight planning and IFR departure, enroute, and arrival procedures.
* Introduce the appropriate emergency procedures for enroute IFR operations.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (If needed)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures

 **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making

**Introduce:****Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
* Airframe and Powerplant Icing
* Turbulence
* Diversion
* Low Fuel Supply
* Engine Failure
 |

**Completion Standards**

* The student will exhibit knowledge of the procedures involved in cross-country planning, filing IFR flight plans, and obtaining IFR clearances.
* The student will demonstrate a basic understanding of the various emergency procedures.

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| **Flight Lesson 14** | **Proposed time: 3.0 Dual Cross Country (3.0 Instrument)** |
|  |  |
| **IFR Cross Country 250 Nautical Miles** |  |

**Lesson Objective:**

* The student will continue to learn how to accurately plan and conduct an IFR cross-country flight and become more familiar with IFR departure, enroute, and arrival procedures.

Note: The student must perform an instrument approach at each airport and perform a minimum of three different types of approaches using navigation systems. One leg of the instrument flight must be at least a straight-line distance of 100 nautical miles between airports.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (If needed)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures

 **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
* Airframe and Powerplant Icing
* Turbulence
* Diversion
* Low Fuel Supply
* Engine Failure
 |

**Completion Standards**

* At the completion of this flight, the student should be proficient in cross-country operations, approach procedures, and simulated emergency procedures appropriate to the aircraft to be used for the practical test.
* The student should have command of the airplane at all times during the flight, exercise sound judgment, and accurately comply with ATC procedures and clearances.

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| **Flight Lesson 15** | **Proposed time: 2.5 Dual Cross Country (2.5 Instrument)** |
|  |  |
| **IFR Cross Country**  |  |

**Lesson Objective:**

* Increase student proficiency in planning and conducting all phases of the IFR cross-country flight in preparation for partial panel IFR cross-country flight.
* The student should take the appropriate actions and perform the correct procedures to manage emergency situations.
* Demonstrate competency in effective resource management and decision making skills for IFR cross-country operations.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (If needed)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures

 **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
* Airframe and Powerplant Icing
* Turbulence
* Diversion
* Low Fuel Supply
* Engine Failure
 |

**Completion Standards**

* The student should demonstrate instrument pilot knowledge and proficiency, as outlined in the current FAA Instrument Rating Practical Test Standards with the exception of partial panel instrument approaches.

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| --- | --- |
| **Flight Lesson 16** | **Proposed time: 2.5 Dual Cross Country (2.5 Instrument)** |
|  |  |
| **IFR Cross Country**  |  |

**Lesson Objective:**

* Increase student proficiency in planning and conducting all phases of the IFR cross-country flight in preparation for partial panel IFR cross-country flight.
* The student should take the appropriate actions and perform the correct procedures to manage emergency situations.
* Demonstrate competency in effective resource management and decision making skills for IFR cross-country operations.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (If needed)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures

 **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
* Airframe and Powerplant Icing
* Turbulence
* Diversion
* Low Fuel Supply
* Engine Failure
 |

**Completion Standards**

* The student should demonstrate instrument pilot knowledge and proficiency, as outlined in the current FAA Instrument Rating Practical Test Standards with the exception of partial panel instrument approaches.

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| --- | --- |
| **Flight Lesson 17** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **Holds and Partial Panel Approaches**  |  |

**Lesson Objective:**

* Review full panel instrument approach procedures for precision and nonprecision approaches.
* Introduce the student to the procedure for an approach with a loss of the primary flight instrument indicators.
* Introduce the student to no-gyro radar vectoring and approach procedures.

|  |  |
| --- | --- |
| **Review:*** GPS Approaches
* ILS Approaches
* Localizer Approaches
* Landing From a Straight-In or Circling Approach Procedure
* Intercepting and Tracking DME Arcs
* Visual Descent Point
* Land and Hold Short Operations
 |  **Introduce:*** Approach with Loss of Primary Flight Instrument Indicators
* No gyro radar vectoring and approach procedures
* Partial panel nonprecision approach procedures
* Partial panel precision approach procedures
* Missed Approach Procedure with Loss of Primary Flight Instrument Indicators
 |

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**Completion Standards**

* During the ILS approaches, the student should demonstrate accurate localizer interception and tracking and make a transition to the glide slope at the correct point.
* The glide slope and localizer should be maintained with no more than three quarter-scale needle deflection.
* During the non-precision approaches, the student should maintain an altitude +/- 200 feet on the initial and intermediate approach segments.
* On the final approach segment, the student should maintain an altitude that is not more than 100 feet above the MDA.
* The student will exhibit understanding of the procedures used in perform no-gyro radar vectoring and approaches and partial panel approach and missed approach procedures.

|  |  |
| --- | --- |
| **Flight Lesson 18** | **Proposed time: 2.5 Dual Cross Country (2.5 Instrument)** |
|  |  |
| **IFR Cross Country Partial Panel** |  |

**Lesson Objective:**

* Increase student proficiency in planning and conducting all phases of the IFR cross-country flight with partial panel.
* The student should take the appropriate actions and perform the correct procedures to manage emergency situations.
* Demonstrate competency in effective resource management and decision making skills for IFR cross-country operations.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (Partial Panel)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures
* Partial Panel Approaches

 **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
* Airframe and Powerplant Icing
* Turbulence
* Diversion
* Low Fuel Supply
* Engine Failure
 |

**Completion Standards**

* The student should demonstrate instrument pilot knowledge and proficiency, as outlined in the current FAA Instrument Rating Practical Test Standards, in each of the listed procedures.

|  |  |
| --- | --- |
| **Flight Lesson 19** | **Proposed time: 2.5 Dual Cross Country (2.5 Instrument)** |
|  |  |
| **IFR Cross Country**  |  |

**Lesson Objective:**

* Increase student proficiency in planning and conducting all phases of the IFR cross-country flight.
* The student should take the appropriate actions and perform the correct procedures to manage emergency situations.
* Demonstrate competency in effective resource management and decision making skills for IFR cross-country operations.

**Review:**

|  |  |
| --- | --- |
| **Approach Procedures (Partial Panel Optional)*** VOR Approaches
* GPS Approaches
* ILS Approaches
* Localizer Approaches
* Missed Approach Procedures
* Partial Panel Approaches

 **IFR Cross-Country Flight Planning*** Weather Information Related to IFR Cross-Country Flight
* Aircraft Performance, Limitations, and Systems Related to IFR Cross Country
* Enroute Chart Interpretation
* Navigation Log and Flight Plan Completion
* Filing an IFR Flight Plan

 **ATC Clearance*** Clearance Copying and Readback
* Departure Procedures and Clearances
* Use of SIDs and ODPs
 |  **IFR Cross-Country Flight*** VOR Enroute Navigation
* GPS Enroute Navigation
* Calculating ETEs and ETAs
* Use of Radar
* Radio Communications
* Enroute Procedures and Clearances
* Arrival Procedures and Clearances
* Use of Standard Terminal Arrivals
* Holding
* Canceling an IFR Flight Plan
* Single-Pilot-Resource Management
* Aeronautical Decision Making

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
* Airframe and Powerplant Icing
* Turbulence
* Diversion
* Low Fuel Supply
* Engine Failure
 |

**Completion Standards**

* The student should demonstrate instrument pilot knowledge and proficiency, as outlined in the current FAA Instrument Rating Practical Test Standards, in each of the listed procedures.

|  |  |
| --- | --- |
| **Flight Lesson 20** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **IFR Practical Test Preparation**  |  |

**Lesson Objective:**

* The student will review instrument approach procedures as well as holding pattern entries and procedures in preparation for the stage check.
* The student will review planning and conducting all phases of the IFR cross-country flight in preparation for the stage check.

**Review:**

|  |  |
| --- | --- |
| **Full Panel Instrument*** Steep Turns

 **Full and Partial Panel Instrument*** Straight-and-Level Flight
* Constant Rate Climbs and Descents
* Constant Airspeed Climbs and Descents
* Standard-Rate Turns
* Recovery From Unusual Flight Attitudes
* Timed Turns to Magnetic Compass Headings
* Magnetic Compass Turns
* Power-Off Stalls
* Power-On Stalls

 **Instrument Navigation*** VOR Navigation
* GPS Navigation
* Localizer Navigation

 **Holding*** VOR Holding
* GPS Holding
* Localizer Holding
* Intersection and DME Holding
 |  **IFR Cross-Country Procedures*** IFR Cross-Country Flight Planning
* ATC Clearance
* IFR Cross-Country Flight Procedures

**Approach Procedures*** Nonprecision Approaches
* ILS Approaches
* Missed Approach Procedures
* Partial Panel Approaches

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
 |

**Completion Standards**

* The student will perform all IFR and simulated emergency procedures at the instrument pilot proficiency level, as outlined in the current FAA Instrument Rating Practical Test Standards.

|  |  |
| --- | --- |
| **Flight Lesson 21** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **IFR Practical Test Preparation**  |  |

**Lesson Objective:**

* The student will review instrument approach procedures as well as holding pattern entries and procedures in preparation for the stage check.
* The student will review planning and conducting all phases of the IFR cross-country flight in preparation for the stage check.

**Review:**

|  |  |
| --- | --- |
| **Full Panel Instrument*** Steep Turns

 **Full and Partial Panel Instrument*** Straight-and-Level Flight
* Constant Rate Climbs and Descents
* Constant Airspeed Climbs and Descents
* Standard-Rate Turns
* Recovery From Unusual Flight Attitudes
* Timed Turns to Magnetic Compass Headings
* Magnetic Compass Turns
* Power-Off Stalls
* Power-On Stalls

 **Instrument Navigation*** VOR Navigation
* GPS Navigation
* Localizer Navigation

 **Holding*** VOR Holding
* GPS Holding
* Localizer Holding
* Intersection and DME Holding
 |  **IFR Cross-Country Procedures*** IFR Cross-Country Flight Planning
* ATC Clearance
* IFR Cross-Country Flight Procedures

**Approach Procedures*** Nonprecision Approaches
* ILS Approaches
* Missed Approach Procedures
* Partial Panel Approaches

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
 |

**Completion Standards**

* The student will perform all IFR and simulated emergency procedures at the instrument pilot proficiency level, as outlined in the current FAA Instrument Rating Practical Test Standards.

|  |  |
| --- | --- |
| **Flight Lesson 22** | **Proposed time: 1.5 Dual Local (1.5 Instrument)** |
|  |  |
| **IFR Practical Test Preparation**  |  |

**Lesson Objective:**

* The student will review instrument approach procedures as well as holding pattern entries and procedures in preparation for the stage check.
* The student will review planning and conducting all phases of the IFR cross-country flight in preparation for the stage check.

**Review:**

|  |  |
| --- | --- |
| **Full Panel Instrument*** Steep Turns

 **Full and Partial Panel Instrument*** Straight-and-Level Flight
* Constant Rate Climbs and Descents
* Constant Airspeed Climbs and Descents
* Standard-Rate Turns
* Recovery From Unusual Flight Attitudes
* Timed Turns to Magnetic Compass Headings
* Magnetic Compass Turns
* Power-Off Stalls
* Power-On Stalls

 **Instrument Navigation*** VOR Navigation
* GPS Navigation
* Localizer Navigation

 **Holding*** VOR Holding
* GPS Holding
* Localizer Holding
* Intersection and DME Holding
 |  **IFR Cross-Country Procedures*** IFR Cross-Country Flight Planning
* ATC Clearance
* IFR Cross-Country Flight Procedures

**Approach Procedures*** Nonprecision Approaches
* ILS Approaches
* Missed Approach Procedures
* Partial Panel Approaches

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
 |

**Completion Standards**

* The student will perform all IFR and simulated emergency procedures at the instrument pilot proficiency level, as outlined in the current FAA Instrument Rating Practical Test Standards.

|  |  |
| --- | --- |
| **Flight Lesson 23** | **Proposed time: 2.0 Dual Local**  |
|  |  |
| **IFR Course Stage Check** |  |

**Lesson Objective:**

* The chief instructor, assistant chief, or a designated check instructor will evaluate the student’s IFR skills. This is the End-of-Course Flight Check in preparation for the Instrument Rating Practical Test.

**Review:**

|  |  |
| --- | --- |
| **Full Panel Instrument*** Steep Turns

 **Full and Partial Panel Instrument*** Straight-and-Level Flight
* Constant Rate Climbs and Descents
* Constant Airspeed Climbs and Descents
* Standard-Rate Turns
* Recovery From Unusual Flight Attitudes
* Timed Turns to Magnetic Compass Headings
* Magnetic Compass Turns
* Power-Off Stalls
* Power-On Stalls

 **Instrument Navigation*** VOR Navigation
* GPS Navigation
* Localizer Navigation

 **Holding*** VOR Holding
* GPS Holding
* Localizer Holding
* Intersection and DME Holding
 |  **IFR Cross-Country Procedures*** IFR Cross-Country Flight Planning
* ATC Clearance
* IFR Cross-Country Flight Procedures

**Approach Procedures*** Nonprecision Approaches
* ILS Approaches
* Missed Approach Procedures
* Partial Panel Approaches

**Simulated Emergency Procedures*** Loss of Communications
* Loss of Primary Flight Instrument Indicators
* Partial Panel Flight
* Systems and Equipment Malfunctions
 |

**Completion Standards**

* The student will perform all IFR and simulated emergency procedures at the instrument pilot proficiency level, as outlined in the current FAA Instrument Rating Practical Test Standards.