

SkyHoppers Aerial Adventures

800-515-4225

Instrument Rating Syllabus

Instrument Rating Candidate:

Written Exam Endorsement & Test Dates, and Score:

Practical Exam Endorsement & Test Dates, and Result:

Instrument Rating Aeronautical Experience Requirements (as per 61.65d 1 & 2)

<input type="checkbox"/>	Current Private or Commercial Certificate	<input type="checkbox"/>	Single Dual X-C conducted in an airplane under IFR to include:
<input type="checkbox"/>	50 hours Cross Country PIC Time (10 hours in airplanes)	<input type="checkbox"/>	250nm minimum distance along ATC directed routing or airways (no minimum leg distance or number of interim landings specified)
<input type="checkbox"/>	40 hours Simulated or Actual Instrument Time to include:	<input type="checkbox"/>	Execution of 3 distinct instrument approaches between any interim and destination airports
<input type="checkbox"/>	15 hours Dual instrument flight training in airplanes (non-simulator)		
<input type="checkbox"/>	3 hours Dual instrument flight training within 60 days preceding practical test		

Instrument Ground Instruction Jeppesen Chapter

(All as per 61.65b 1-10)

Stage 1 - Transition to Instrument Flight

Stage 2 - Instrument Navigation & Instrument Approach Procedures

✈ Principals of Instrument Flight

<input type="checkbox"/>	Attitude Flight Instruments	2A
<input type="checkbox"/>	Attitude Instrument Flying Technique (as per 61.65b7 - safe & efficient operation of a/c under IFR & instrument conditions)	2B
<input type="checkbox"/>	Instrument Navigation (as per 61.65b4)	2C

✈ Preflight Preparation (as per 61.65c1)

<input type="checkbox"/>	Preflight Weather Briefing (Obtain and analyze printed & graphic Wx products suitable for the proposed flight, and determine need for alternate airport with required minimums)
<input type="checkbox"/>	Cross Country IFR Flight Planning (Prepare navigation log as assigned i.a.w. IFR & conventions, using real-time Wx to determine ETE, EFC, & performance limitations, and correctly select applicable instrument charts & accounting for NOTAMS - demonstrate knowledge of GPS & RAIM as applicable)

✈ Navigation Systems (as per 61.65c5)

<input type="checkbox"/>	VOR Radial & DME ARC Interception & Tracking (Demonstrate proper tuning of VOR and/or GPS, recognize failure, determine OBS orientation for position, fly intercept heading and track specified radial TO or FM station, all while M airspeed ±10kts, altitude ±100ft, & heading ±5° using wind correction to maintain within 3/4 scale of CDI - intercept & maintain DME ARC within 1nm)
<input type="checkbox"/>	NDB Interception & Tracking (Demonstrate proper tuning & monitoring of ADF, recognize failure, determine NDB direction & a/c position, fly intercept heading and track specified bearing TO or FM station, all while M airspeed ±10kts, altitude ±100ft, & heading ±5° using wind correction to maintain within 10° of bearing)

✈ Precision Approach Procedures (as per 61.65c6)

<input type="checkbox"/>	Precision Approach > Exhibit knowledge of Precision IAP's & symbology > Execute single approach providing vertical, horizontal, and range guidance > Proper demonstration of: execution of IAP including navcom usage & navaid ID/status - ATC contact & phraseology - ATC compliance - equipment/aircraft limitation reporting - adverse Wx configuration - and checklist usage - all while M airspeed ±10kts, heading ±10°, & altitude ±100ft, using wind correction to maintain within 3/4 scale of CDI prior to glideslope interception) > Demonstrate proper interception of glideslope & localizer, and maintain descent within 3/4 scale of each to DA (accounting for NOTAM changes) using predetermined rate, normal maneuvers, and airspeed ±10kts as per approach category > Execute either an immediate visual descent to straight-in landing from DA, using normal maneuvers within 3/4 scale deflection until landing transition, or missed approach from DA as warranted or specified by examiner
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✈ IFR Environment, Services, and Procedures

<input type="checkbox"/>	IFR Environment (as per 61.85b2 - information pertaining to IFR flight operations specified in AIM, including airports and airspace)	3A
<input type="checkbox"/>	Air Traffic Control system (as per 61.85b3)	3B
<input type="checkbox"/>	Instrument Flight Rules (as per 61.85b1)	FAR 91.167-187
<input type="checkbox"/>	ATC Clearances (as per 61.85b3)	3C

✈ Preflight Procedures (as per 61.65c2)

<input type="checkbox"/>	Aircraft Systems Related to IFR Operations (Exhibit knowledge of anti/de-icing systems, including pilot, carb, prop, & airframe heat, as applicable)
<input type="checkbox"/>	Aircraft Flight Instruments & Navigation Equipment (Exhibit knowledge of instrument operation & associated system operation, nav/com & GPS operation, and mag compass errors & limitations)
<input type="checkbox"/>	Instrument Cockpit Check (Exhibit knowledge of flight instrument & navigation equipment operation and troubleshooting, and demonstrate preflight check for airworthiness)

✈ ATC Clearances & Procedures (as per 61.65c3)

<input type="checkbox"/>	ATC Clearances (Exhibit knowledge of clearance phraseology & types including TEC & void times - Demonstrate clearance copy & readback, interpret clearance and determine compliance, set navcom radios accordingly, and understand pilot/controller responsibilities)
<input type="checkbox"/>	Compliance with Dep., Enroute, and Arrival Proc. & Clearances (Exhibit knowledge of DP, Enroute, & STAR chart symbology and interpretation - Demonstrate proper navcom usage & ID, make timely route interception & determine compliance with ATC instructions, proper radio contact & phraseology, radio failure procedures, and pilot/controller responsibilities, all while M airspeed ±10kts, heading ±10°, & altitude ±100ft, using wind correction to maintain within 3/4 scale of CDI)

✈ Approach-to-Land

<input type="checkbox"/>	Circling Approach (Demonstrate proper circling procedure requiring 90° change in direction, i.a.w. safe circling radii & visibility requirements based on approach category, procedural notes, traffic limitations, and/or ATC instruction - all while M MDA +100/-0 in published visibility until positioned for normal descent & landing considering a/c maneuverability & adverse weather)
<input type="checkbox"/>	Landing From a Straight-In or Circling Approach (Exhibit adequate decision-making ability considering situational (traffic), operational (ATC advisories/NOTAMS/runway condition), & meteorological (wind shear/wake turbulence) factors while transitioning from MDA/DA into a visual flight condition for either straight-in or circling approach, completing checklist items, and maintaining positive a/c control throughout landing maneuver)

✈ Aviation Weather

<input type="checkbox"/>	Advanced Meteorology	9A
<input type="checkbox"/>	Weather Hazards (as per 61.65b8 - recognition of critical weather situations and wind shear avoidance)	9B

✈ Flight by Reference to Instruments (as per 61.65c4)

<input type="checkbox"/>	Straight & Level Flight (Maintain Practical Test Standards for AIF in specified flap configurations, with full & partial panel)
<input type="checkbox"/>	Change of Airspeed (Maintain Practical Test Standards for AIF in straight or turning LEVEL flight, under full- or partial-panel, using precise power settings during airspeed change)
<input type="checkbox"/>	Constant Airspeed Climbs & Descents (Maintain Practical Test Standards for AIF in straight or turning flight, under full- or partial-panel, using precise pitch & power adjustments to establish specified airspeed)
<input type="checkbox"/>	Constant Rate Climbs & Descents (Maintain Practical Test Standards for AIF including VSI within 100fpm of specified rate, in straight or turning flight, under full- or partial-panel, using precise pitch, bank & power adjustments to establish specified rate)
<input type="checkbox"/>	Timed Turns to Magnetic Compass Headings (Maintain Practical Test Standards for AIF including bank within 5° of specified rate-of-turn, and roll out within 10° of specified mag compass heading accounting for errors & limitations, in timed (calibrated) standard-rate turns using proper calibration of clock timing and turn coordinator)
<input type="checkbox"/>	Steep Turns (Maintain Practical Test Standards for AIF in 45° bank left & right 180° or 360° turns using FULL panel)
<input type="checkbox"/>	Unusual Attitude Recovery (Demonstrate proper interpretation of BOTH nose-high & nose-low unusual attitude indications, and apply correct recovery sequence WITHOUT intervention by examiner)

✈ Holding Procedures

<input type="checkbox"/>	(Demonstrate (& explain) proper entry procedures, holding airspeed, holding fix recognition, ATC reporting, leg timing & associated wind correction procedures, all while M airspeed ±10kts, heading ±10°, & altitude ±100ft, using wind correction to maintain within 3/4 scale of CDI)
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✈ Emergency Operations

<input type="checkbox"/>	Loss of Communications (exhibit knowledge of procedures for communication loss, including recognition of loss, radio troubleshooting, route and altitude selection following loss, and proper timing of departure from holding and initial approach fixes)
<input type="checkbox"/>	Approach with Loss of Primary Flight Instrument Indicators (Demonstrate recognition of inoperative gyroscopic attitude instruments and report to ATC, then execute a partial-panel approach i.a.w the Practical Test Standards for Non-Precision approach or advise if unable to comply with clearance)

✈ Instrument Charts & Procedures (all as per 61.65b5)

<input type="checkbox"/>	Departure Charts & Procedures	4A, 4B
<input type="checkbox"/>	Enroute Charts & Procedures	5A, 5B
<input type="checkbox"/>	Holding Procedures	5C
<input type="checkbox"/>	Arrival Charts & Procedures	6A, 6B
<input type="checkbox"/>	Approach Charts	7A
<input type="checkbox"/>	Approach Procedures	7B
<input type="checkbox"/>	IFR Flight Planning	10C
<input type="checkbox"/>	Non-Precision Approaches	8A
<input type="checkbox"/>	Precision Approaches	8B
<input type="checkbox"/>	GPS & RNAV Approaches	8C

✈ Non-Precision Approach Procedures (as per 61.65c6)

<input type="checkbox"/>	Non-Precision Approach > Exhibit knowledge of Non-Precision IAP's & symbology > Execute 2 approaches based on separate VOR/GPS/LOC/NDB nav aids as selected by examiner - either approach to be conducted partial panel (see below), procedure turn, via own navigation, and/or without autopilot > Proper demonstration of: execution of IAP including navcom usage & navaid ID/status - ATC contact & phraseology - ATC compliance - equipment/aircraft limitation reporting - adverse Wx configuration - and checklist usage - all while M airspeed ±10kts, heading ±10°, & altitude ±100ft, using wind correction to maintain within 3/4 scale of CDI prior to FAF) > Demonstrate proper descent within 3/4 scale of CDI to MDA (+100/-0' & accounting for NOTAM changes), before MAP, using appropriate rate, timing, maneuvers, and airspeed ±10kts as per approach category > Execute either a straight-in or circling approach-to-land using normal maneuvers, or a missed approach as warranted or specified by examiner
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✈ Postflight Procedures

<input type="checkbox"/>	Postflight Instruments & Equipment Check (Demonstrate ability to recognize and squawk inoperative equipment or instruments, and knowledge of which inoperative components might ground the aircraft)
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✈ IFR Flight Considerations

<input type="checkbox"/>	IFR Emergencies (as per 61.65b7)	10A
<input type="checkbox"/>	IFR Decision Making (as per 61.65b 9&10 - ADM & judgement, and CRM including crew communication & coordination)	10B, 13-17 to 21

✈ AIF Practical Test Standards

<input type="checkbox"/>	> Maintain Airspeed ±10kts, Heading ±10°, Altitude ±100' during level flight & leveloffs, and Bank ±5° during turns, for all maneuvers as applicable. > Demonstrate all maneuvers using proper A-I-F techniques, while under the hood, involving instrument cross check, interpretation, and pitch-power-bank-trim control inputs.
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✈ Missed Approach

<input type="checkbox"/>	(Demonstrate proper "go-around" procedure i.a.w. POH checklist for power, pitch, & flap configuration, followed by ATC report and compliance with missed approach procedure, or clearance to alternate airport as specified - all while M airspeed ±10kts, altitude ±100ft, & heading ±10° during missed approach)
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