DZ AVIATION

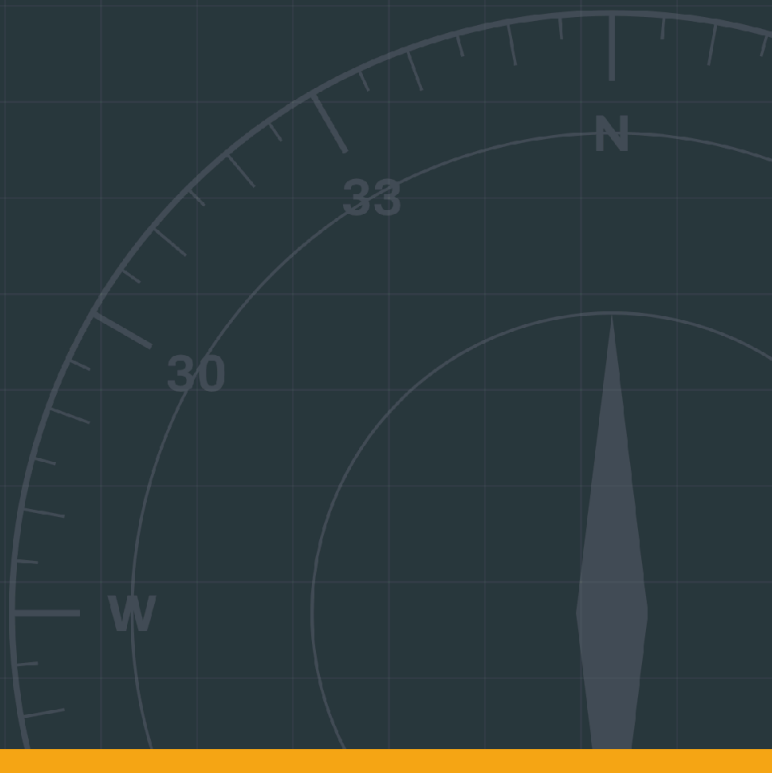
FLIGHT TRAINING · ORLANDO APOPKA (X04)

TRAINING COURSE OUTLINE · 14 CFR PART 61

Instrument Rating

Instrument – Airplane

Ground and flight training syllabus



Orlando Apopka Airport (X04) · Apopka, Florida

Instrument rating – airplane: ground and flight training under 14 CFR Part 61.

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AIRCRAFT	Cessna 172 and Piper PA-28-181 Archer, IFR equipped
REVISION	Revision 1 · November 8, 2026
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Log of Revisions

Number	Date	Nature of the Changes	Signature
1	11/08/2026	Original issue: instrument rating syllabus adapted for DZ Aviation (Part 61, X04)	DZ
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Part 61 Minimum Requirements and Training Plan

DZ Aviation trains under 14 CFR Part 61. The minimum aeronautical experience for an instrument rating – airplane is set by 14 CFR 61.65(d). Meeting those minimums is required, but it is not the same as being ready for the practical test. The table below shows each regulatory minimum, the tightest plan in which this course can meet it, and the 44.5-hour plan this syllabus is built around.

Minimum requirements at a glance

Requirement (14 CFR 61.65(d) unless noted)	Regulatory minimum	Tightest plan	This syllabus	Flight lessons
Cross-country time as pilot in command, incl. 10 h in airplanes	50.0	50.0	50.0	18–21 + PIC time building
Actual or simulated instrument time	40.0	40.0	40.0	All
Instrument training from an authorized instructor with an instrument-airplane rating (CFII)	15.0	30.2	40.0	All
Instrument flight training in an airplane within the 2 calendar months before the month of the test	3.0	3.5	5.0	23, 24, 25
IFR cross-country with a CFII, on a filed IFR flight plan, 250 nm along airways or ATC routing, an instrument approach at each airport, three different kinds of approaches	1 flight	1 flight	1 flight	21
Ground training or home study on the 61.65(b) knowledge areas	No minimum hours	Self-study + 1-on-1	80.5 h planned	Ground lessons 1–22
Endorsements: knowledge test (61.35(a)(1), 61.65(a)(3)), practical test (61.39(a)(6), 61.65(a)(6))	Required	Required	Required	GL 22, FL 25

Cross-country time for the instrument rating means a flight with a landing at a point more than 50 nm in a straight line from the original point of departure (14 CFR 61.1). Simulated instrument time logged with a safety pilot counts toward the 40 hours but not toward the 15 hours with a CFII.

How we train to the minimums

A student who meets every lesson's completion standards on the first attempt can finish the flight training with about 30 hours of dual instruction. To make that possible, we work as follows:

- Fly at least 3 times per week, in morning slots when possible to avoid Central Florida afternoon thunderstorms. Gaps between lessons cost more in instrument training than in any other rating.
- Finish each self-study module before its one-on-one ground session, and pass the FAA Instrument Rating knowledge test before the Stage 3 cross-country lessons begin.

- Arrive prepared: brief the approaches and holds on the ground, chair-fly the procedures with the charts open, and have the IFR flight plan filed before the briefing.
- Credit what the student already has: instrument time from private pilot training counts toward the 40 hours, and toward the 15 hours when it was given by a CFII (the DZ Aviation Private Pilot syllabus includes 4.0 hours given by a CFII).
- Use a safety pilot for practice on tasks already at standard: a pilot holding at least a private pilot certificate with an airplane single-engine rating and a current medical, seated at the other controls (14 CFR 91.109(c)). Flown to destinations more than 50 nm away, these flights also build PIC cross-country time.
- Combine lessons once their completion standards are met: Stage 1 and Stage 2 lessons can be merged, Flight Lessons 19 and 20 are skipped when Lesson 18 meets standards, and practical test preparation is reduced to the 3 hours the regulation requires.
- Track every minimum in the written debrief after each lesson, so no requirement is left for the end of the course.

The tightest plan is built as follows:

Phase (flight lessons)	Dual flight	Instrument	Notes
Stage 1 – attitude flying, navigation, holding (1–8, condensed)	9.0	7.8	Ends with the Stage 1 check
Stage 2 – approaches and the IFR system (9–17, condensed)	10.5	9.4	Ends with the Stage 2 check
IFR cross-country (18, 21)	6.5	5.8	Lesson 21 is the 250 nm IFR cross-country; 19 and 20 skipped
Practical test preparation (23, 25)	3.5	3.2	Within the 2 calendar months before the month of the test
Safety-pilot practice		9.8	Counts toward the 40 h, not the 15 h
Instrument time from private pilot training (given by a CFII)		4.0	Counts toward both the 40 h and the 15 h
Total	**29.5**	**40.0**	30.2 h of the instrument time is with a CFII

Part 61 also allows up to 20 hours of the instrument time in an FAA-approved advanced aviation training device (10 hours in a basic device) when an authorized instructor gives the training (14 CFR 61.65(i)). This syllabus is flown entirely in the airplane; if an approved device is added later, its lessons will be marked in the hours plan.

What most students actually need

Few students finish at the tightest plan, and this syllabus does not assume they will. It is planned at 44.5 hours of dual flight, all of it instrument training with a CFII, and any lesson is repeated until its completion standards are met. The difference between students comes almost entirely from how often they fly: holding entries, approach

briefings, and scan habits fade quickly after a week on the ground. The student is endorsed for the practical test only when he or she consistently meets the current Instrument Rating – Airplane ACS.

PIC cross-country time

The 50 hours of PIC cross-country time is the requirement most private pilots are furthest from. It is built in three ways:

- **Time already logged:** solo cross-country time flown as a student pilot counts as PIC time. A DZ Aviation private pilot graduate starts with about 5.5 hours.
- **Dual IFR cross-countries in this course:** a private pilot who is the sole manipulator of the controls of an airplane for which he or she is rated may log PIC time (14 CFR 61.51(e)(1)(i)). Flight Lessons 18–21 add 11.5 hours.
- **Time-building flights:** the rest is flown as PIC, alone, with a safety pilot, or with passengers. Destinations more than 50 nm from X04 include Gainesville (about 69 nm), Melbourne (61 nm), St. Augustine (76 nm), Sebring (76 nm), Cedar Key (81 nm), Vero Beach (88 nm), and Sarasota (94 nm). Airports just under 50 nm, such as Ocala, Lakeland, and Daytona Beach, do not count.

The chief instructor reviews the student's logbook at each stage check and plans the remaining time-building flights so the 50 hours are complete before the end-of-course check.

Course Outline

1. DZ Aviation provides flight and ground instruction at Orlando Apopka Airport (X04), Apopka, Florida, under 14 CFR Part 61. DZ Aviation does not hold an FAA air agency certificate.

DZ Aviation

Orlando Apopka Airport (X04), Apopka, FL · www.flydz.co · david@flydz.co

2. Base of Operations: Orlando Apopka Airport (X04)
    a. Airport: X04 is a public-use, non-towered airport about 4 miles northwest of Apopka and is the base for all training in this course. Runway 15/33 is 3,284 x 60 ft asphalt, with pilot-controlled low-intensity edge lights on the CTAF (123.05). X04 has two published instrument approaches, RNAV (GPS)-A and RNAV (GPS)-B, both with circling minimums only, an RNAV arrival (SLOAO), and non-standard takeoff minimums and departure procedures. IFR clearances are obtained from Orlando Approach (135.3 in the air, or by phone on the ground), and the airport lies under the Orlando Class B airspace, so every lesson begins and ends in a busy terminal radar environment.
    b. Ground Instruction Facilities: Briefings, debriefings, and one-on-one ground lessons are conducted at X04 in a briefing area suitable for instruction, away from ramp and maintenance activity, with internet access for weather briefings, IFR flight planning, and filing.
    c. Ground Trainer: No flight simulation training device is used in this course; all flight training is conducted in the airplane. Students are encouraged to chair-fly each procedure with the current charts and to practice approach briefings and holding entries on a desktop simulator or app, which is not logged.
3. Training Aids: Ground training uses an online self-study instrument rating course (Sporty's, King Schools, or equivalent), FAA handbooks, the aircraft POHs, avionics guides and checklists, current IFR charts and terminal procedures, ForeFlight, and diagrams and approach plates during one-on-one sessions.
4. Aircraft: Cessna 172 and Piper PA-28-181 Archer airplanes operated by Countrywide Flyers, a flying club based at X04, are used for flight training in this course. Each aircraft used for instruction is equipped for IFR flight as specified in 14 CFR 91.205(d), with an IFR-approved GPS navigator, a VOR receiver, and a transponder with ADS-B Out, and has current altimeter, static system, and transponder inspections (14 CFR 91.411 and 91.413). A VOR check within the preceding 30 days (14 CFR 91.171) is required before any flight under IFR.
    a. Students must be members of Countrywide Flyers and checked out in the club aircraft before training. Membership, aircraft scheduling, checkout, and insurance requirements are set by the club, not by DZ Aviation.

   b. Students normally train in one airplane and one avionics installation through the end-of-course check. A change of airplane or GPS navigator requires additional training on that equipment before the next lesson.
   c. A view-limiting device (hood or foggles) approved by the instructor is used for all simulated instrument flight.

5. Chief Instructor:
   a. The chief instructor for the Instrument Rating course is:
      i. **Davide Zambiasi – Gold Seal CFI/CFII, airplane and helicopter**
   b. The chief instructor conducts the training in this course, administers all stage exams, stage checks, and the end-of-course check, keeps the training records, and issues all required endorsements.
6. Instructors: All training in this course is given by the chief instructor. Instrument training that counts toward the 15 hours required by 14 CFR 61.65(d)(2) must be given by an instructor with an instrument-airplane rating on his or her flight instructor certificate.
7. Training Records: Each lesson is logged in the student's logbook and in the DZ Aviation training record, with a written debrief that states which completion standards were met and what comes next. The logbook entry lists the approaches, holds, and navigation tasks flown, so the time can also be credited toward 14 CFR 61.129(a)(3)(i) for the commercial certificate. Endorsements follow the current edition of FAA Advisory Circular 61-65.
8. Scheduling: Students should schedule at least three lessons per week. Morning lessons are recommended from late spring through early fall to avoid afternoon thunderstorms; actual instrument conditions are flown only when the ceiling, freezing level, and convective activity are within DZ Aviation's limits for the lesson. When more than two weeks pass between flight lessons, the next lesson normally begins with a review of the previous lesson's elements.

Curriculum Overview

The DZ Aviation Instrument Rating course (the course) is designed to meet the aeronautical knowledge, flight proficiency, and aeronautical experience requirements of 14 CFR 61.65(b), (c), and (d) for an instrument rating – airplane. DZ Aviation trains under 14 CFR Part 61; the course is organized in stages, with stage exams, stage checks, and written completion standards, because this makes progress measurable and keeps training on track. The instructor refers to the regulations throughout the course so that every knowledge area, flight proficiency area, and experience requirement is covered and documented.

The syllabus has separate ground and flight segments that are taught concurrently. The ground lessons are divided into three stages. In Stage 1, the student learns the principles of instrument flight: human factors, flight instrument systems, attitude instrument flying, navigation systems, the regulations, the airspace system, and ATC services and clearances. In Stage 2, the student studies IFR charts and procedures: departures, enroute operations, holding, arrivals, and each type of instrument approach. In Stage 3, the student studies weather, IFR emergencies, and IFR decision making and flight planning.

The flight lessons are separated into three stages. In Stage 1, the student learns precise attitude control by instrument reference, full and partial panel, and the use of each navigation system, ending with holding patterns. In Stage 2, the student learns each type of instrument approach and flies in the IFR system around Orlando. In Stage 3, the student completes the IFR cross-country experience required by 14 CFR 61.65(d), including the 250 nm IFR cross-country, and prepares for the practical test.

The course coordinates ground and flight lessons in a step-by-step progression of introduction and practice, combining self-study assignments, one-on-one ground instruction, and training in the airplane. The syllabus is not a rigid document: it is a summary of the course of training, and the instructor adapts it to each student’s needs and to the local training environment.

Course elements

The course has a ground portion and a flight portion, which are normally conducted together. The ground portion covers the aeronautical knowledge areas of 14 CFR 61.65(b); the flight portion covers the areas of operation of 14 CFR 61.65(c) and the instrument training and cross-country experience of 14 CFR 61.65(d). A student who completes the course and the PIC cross-country time described above meets the Part 61 requirements for the instrument rating.

Course enrollment

A student may enroll at any time and may begin at the start of any stage, subject to the evaluation described under Credit for previous training. The student must hold at least a private pilot certificate with an airplane single-engine land rating, or be concurrently applying for one (14 CFR 61.65(a)(1)), and must be able to read, speak, write, and understand the English language. Flight training with the instructor as pilot in command does not require a medical certificate, but the time-building and safety-pilot flights do: the student must hold at least a third-class medical certificate or fly under BasicMed to act as pilot in command. Students who are not U.S. citizens must receive TSA approval before instrument training begins.

Credit for previous training

All flight and ground training previously received from an authorized instructor and properly logged counts toward the requirements of 14 CFR 61.65, whether it was received under Part 61 or Part 141. Instrument time from private pilot training counts toward the 40 hours, and toward the 15 hours only if the instructor held an instrument-airplane rating. Before placing a student who has prior instrument training, the chief instructor reviews the student's logbook and conducts an evaluation flight and oral review. The student then enters the course at the lesson that matches the proficiency demonstrated.

Ground training

14 CFR 61.65(a)(3) requires the applicant to receive and log ground training from an authorized instructor, or to complete a home-study course, on the aeronautical knowledge areas of 14 CFR 61.65(b). This course combines both. Before each ground lesson, the student completes the assigned module of an online self-study instrument course (Sporty's, King Schools, or an equivalent course accepted by the chief instructor). The student then reviews the lesson one-on-one with the instructor, who covers weak areas, applies the material to the Orlando IFR environment, and checks the student against the lesson's completion standards. The ground lessons in each stage should be completed before or alongside the flight lessons in the same stage.

Using the ground lessons

Each ground lesson lists its objectives, the recommended self-study and one-on-one time, required materials, lesson elements, and completion standards. At the start of the one-on-one session, the instructor outlines the objectives, the elements to be covered, and the completion standards. Self-study times are estimates; one-on-one time is logged as ground training and may be split across briefings and debriefings when that serves the student better.

Textbooks and required materials

Before each ground lesson, the student completes the assigned self-study module and reads the related sections of the references below. The following materials are required for the course:

- Online instrument rating ground school course (Sporty's, King Schools, or equivalent)
- Instrument Flying Handbook (FAA-H-8083-15)
- Instrument Procedures Handbook (FAA-H-8083-16)
- Aviation Weather Handbook (FAA-H-8083-28)
- Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25)
- Risk Management Handbook (FAA-H-8083-2)
- Pilot's Operating Handbook, avionics pilot's guide, and club checklists for the aircraft flown (Cessna 172 and/or Piper PA-28-181 Archer)
- FAR/AIM (current edition)
- Current Chart Supplement U.S. (Southeast)
- Current IFR Enroute Low Altitude charts and Terminal Procedures Publication for the Southeast (paper or ForeFlight)
- Airman Knowledge Testing Supplement for Instrument Rating (FAA-CT-8080-3, current edition)
- Instrument Rating – Airplane Airman Certification Standards (FAA-S-ACS-8, current edition)
- ForeFlight or another electronic flight bag with current data
- View-limiting device (hood or foggles)

Stage written exams and end-of-course written exam

Each ground stage ends with a written stage exam on the material unique to that stage. The minimum passing score is 80%, and the instructor reviews every incorrect answer with the student before the next stage begins. After all ground lessons are complete, the student takes the end-of-course written exam, a comprehensive review for the FAA Instrument Rating – Airplane knowledge test. The logged ground training and a passed end-of-course exam are the basis for the knowledge test endorsement required by 14 CFR 61.35(a)(1) and 61.65(a)(3). Students are encouraged to take the FAA knowledge test before the Stage 3 cross-country lessons begin.

Stage checks and end-of-course check

Each flight stage ends with a stage check conducted by the chief instructor: Flight Lesson 8 (attitude flying, navigation, and holding), Flight Lesson 17 (instrument approaches), and Flight Lesson 25 (end-of-course check).

The student must meet the stage completion standards before moving to the next stage. The end-of-course check is a full mock practical test flown to the current Instrument Rating – Airplane ACS, and is the basis for the practical test endorsements required by 14 CFR 61.39(a)(6) and 61.65(a)(6).

Preflight orientation

Before each flight, the instructor briefs the lesson: its objectives, the elements to be covered, and the completion standards, including unfamiliar terms and the procedures to be flown. The briefing is tailored to the flight, the local environment (X04's circling-only approaches and departure procedures, the Orlando Class B airspace, and Central Florida convective weather), and the individual student. Before every lesson that uses the IFR system, the student briefs the planned clearance, departure, and approaches to the instructor. After every lesson, the instructor gives the student a written debrief stating what met standards, what needs more work, and the plan for the next lesson.

Deviations

This syllabus has been written with a building block progression of learning. The succession of the lessons is designed to optimize the learning process. However, even though the lessons are arranged in a logical sequence, the syllabus should not be considered a rigid document. It should be considered as an abstract or summary of the course of training. Therefore the instruction must provide flexibility to adapt to individual student needs and/or the local training environment. With the approval of the chief instructor, lessons may be rearranged to better suit the needs of the student as long as the overall progression of the building blocks is not disturbed. Weather may require flying a later lesson early, for example an IFR cross-country on a day with suitable conditions, provided its prerequisites are met.

Course completion certificate

Students who complete all ground and flight lessons, stage exams, and stage checks receive a DZ Aviation course completion certificate after Flight Lesson 25. Because DZ Aviation trains under Part 61, this is not a Part 141 graduation certificate: eligibility for the practical test comes from the student's logged aeronautical experience (14 CFR 61.65(d)), a passed knowledge test, and the required instructor endorsements (14 CFR 61.39 and 61.65(a)).

Course completion

To complete the course, the student must complete the ground and flight lessons in the order given (unless changed by the chief instructor as described under Deviations), meet every lesson and stage completion standard, and meet the aeronautical knowledge, flight proficiency, and aeronautical experience requirements of 14 CFR 61.65(b), (c), and (d).

Structure and Hours Plan

Ground course

	Self-study (recommended)	1-on-1 ground instruction	Stage and EOC exams	Total ground time
Stage 1	20.0	8.0	2.0	30.0
Stage 2	19.0	7.0	2.0	28.0
Stage 3	13.0	5.5	4.0	22.5
Part 61 minimum	**NS**	**NS**	**NS**	**NS**
Course total	**52.0**	**20.5**	**8.0**	**80.5**

NS = none specified. Part 61 sets no minimum ground hours: the student logs ground training or a home-study course on the 61.65(b) areas and receives a knowledge test endorsement (14 CFR 61.35 and 61.65(a)(3)).

Ground course overview

Instrument Course	Lesson number	Self-study (recommended)	1-on-1 ground	Exam time	Total ground time	Lesson description
	1	2.0	1.0		3.0	Introduction to instrument training & human factors
	2	3.0	1.0		4.0	Flight instrument systems
	3	3.0	1.0		4.0	Attitude instrument flying & instrument failure
	4	4.0	1.5		5.5	Navigation systems: VOR, DME, GPS & autopilot
	5	3.0	1.0		4.0	Regulations for instrument flight
	6	2.0	1.0		3.0	Airports, airspace & flight information
	7	3.0	1.5		4.5	ATC system, services & clearances
	8			2.0	2.0	Stage 1 written exam
Stage 1	**Total**	**20.0**	**8.0**	**2.0**	**30.0**	
	9	2.0	1.0		3.0	Departure charts & procedures
	10	3.0	1.0		4.0	Enroute charts & procedures
	11	2.0	1.0		3.0	Holding procedures
	12	2.0	0.5		2.5	Arrival charts & procedures
	13	4.0	1.5		5.5	Approach charts & approach procedures
	14	3.0	1.0		4.0	VOR, localizer & ILS approaches
	15	3.0	1.0		4.0	RNAV (GPS) approaches
	16			2.0	2.0	Stage 2 written exam
Stage 2	**Total**	**19.0**	**7.0**	**2.0**	**28.0**	
	17	4.0	1.5		5.5	Meteorology & weather hazards
	18	4.0	1.5		5.5	Weather reports, forecasts & sources

Instrument Course	Lesson number	Self-study (recommended)	1-on-1 ground	Exam time	Total ground time	Lesson description
	19	2.0	1.0		3.0	IFR emergencies
	20	3.0	1.5		4.5	IFR decision making & flight planning
	21			2.0	2.0	Stage 3 written exam
	22			2.0	2.0	End-of-course exam
Stage 3	**Total**	**13.0**	**5.5**	**4.0**	**22.5**	
Course Total		**52.0**	**20.5**	**8.0**	**80.5**	

Flight lessons structure

Instrument course	Lesson	Pre/post brief	Dual	Instrument (CFII)	Dual cross-country	Practical test prep	Total flight
	1	1.0	1.5	1.3			1.5
	2	0.5	1.5	1.3			1.5
	3	0.5	1.5	1.3			1.5
	4	0.5	1.5	1.3			1.5
	5	0.5	1.5	1.3			1.5
	6	0.5	1.5	1.3			1.5
	7	0.5	1.5	1.3			1.5
	8	1.0	1.5	1.3			1.5
Stage 1	**Total**	**5.0**	**12.0**	**10.4**	**0.0**	**0.0**	**12.0**
	9	0.5	1.5	1.4			1.5
	10	0.5	1.5	1.4			1.5
	11	0.5	1.5	1.4			1.5
	12	0.5	1.5	1.4			1.5
	13	0.5	1.5	1.4			1.5
	14	1.0	2.0	1.8			2.0
	15	0.5	1.5	1.4			1.5
	16	0.5	1.5	1.4			1.5
	17	1.0	2.0	1.8			2.0
Stage 2	**Total**	**5.5**	**14.5**	**13.4**	**0.0**	**0.0**	**14.5**
	18	1.0	2.5	2.2	2.5		2.5
	19	1.0	2.5	2.2	2.5		2.5
	20	1.0	2.5	2.2	2.5		2.5
	21	1.5	4.0	3.6	4.0		4.0
	22	0.5	1.5	1.4			1.5
	23	0.5	1.5	1.4		1.5	1.5

Instrument course	Lesson	Pre/post brief	Dual	Instrument (CFII)	Dual cross-countr y	Practical test prep	Total flight
	24	0.5	1.5	1.4		1.5	1.5
	25	1.5	2.0	1.8		2.0	2.0
Stage 3	**Total**	**7.5**	**18.0**	**16.2**	**11.5**	**5.0**	**18.0**
Course Total		**18.0**	**44.5**	**40.0**	**11.5**	**5.0**	**44.5**
Part 61 Minimums				**15.0 (40.0 total instrument)**		**3.0**	

All flight time in this course is dual instruction with a CFII. Instrument time is the portion of each flight flown by reference to instruments, in simulated or actual conditions; the rest is the visual takeoff, the transition to and from the view-limiting device, and the landing. Dual cross-country flights include a landing more than 50 nm from X04 and may be logged as PIC cross-country time by a rated pilot who is the sole manipulator of the controls. The times are a guide: lessons are repeated until their completion standards are met.

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Stage 1 – Ground Lessons

OBJECTIVES:

- During this stage, the student will learn the principles of instrument flight, including the operation, use, and limitations of flight instruments and navigation systems, with emphasis on the human factors and physiological hazards of flight by instrument reference. The student will also learn how the air traffic control system works, how to obtain and follow IFR clearances, and the regulations that apply to instrument flight.

COMPLETION STANDARDS:

- This stage is complete when the student has taken the Instrument Stage 1 written 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 next stage.

EXPECTATIONS:

- The student is expected to review and study the lessons' related material and attend each session prepared to progress through the course.

Ground Lesson 1: Introduction to instrument training & human factors

OBJECTIVES:

- Become familiar with the instrument training syllabus, DZ Aviation and Countrywide Flyers procedures for IFR training, and the resources needed to complete the course.
- Gain an understanding of the human factors and physiological hazards of instrument flight.

SCHEDULE: 2.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- Instrument Flying Handbook
- Risk Management Handbook
- FAR/AIM

LESSON ELEMENTS:

Introduction to the instrument training environment

- Instrument Rating Syllabus and the PIC cross-country time plan
- Expectations for punctuality, preparation, and professionalism
- Scheduling lessons and reserving IFR-equipped Countrywide Flyers aircraft
- Safety pilot requirements and the use of view-limiting devices
- DZ Aviation personal minimums for actual instrument conditions
- SOP: stabilized approach and go-around policy
- Eligibility: certificates, medical or BasicMed, the knowledge test, and the practical test
- Instrument Rating – Airplane ACS

Human factors

- Aeronautical decision making and single-pilot resource management
- Pilot-in-command responsibility under IFR
- Workload management and task saturation
- Situational awareness and automation management
- Hazardous attitudes and personal minimums

Aviation physiology

- Spatial disorientation and vestibular illusions
- Visual illusions on approach and landing
- Motion sickness
- Hypoxia and hyperventilation
- Stress and fatigue
- Alcohol, drugs, and performance
- Fitness for flight / “IMSAFE” checklist

COMPLETION STANDARDS:

- The student will demonstrate, through oral quizzing, understanding of the human factors and physiological hazards of instrument flight and of the course structure and requirements.

Ground Lesson 2: Flight instrument systems

OBJECTIVES:

- Gain a working knowledge of the function and use of the flight instrument systems in the training airplane.
- Become familiar with the limitations, errors, and common failure modes of each system, and with the instrument checks required before IFR flight.

SCHEDULE: 3.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- Instrument Flying Handbook
- PHAK
- POH and avionics pilot's guide

LESSON ELEMENTS:

Instrument requirements

- Equipment required for IFR flight (14 CFR 91.205(d))
- Altimeter, static system, and transponder inspections (14 CFR 91.411, 91.413)
- VOR equipment check (14 CFR 91.171)
- Inoperative instruments and equipment (14 CFR 91.213)

Pitot-static instruments

- Airspeed indicator, altimeter, vertical speed indicator
- Air data computers on glass displays
- Blockages, errors, and alternate static source
- Instrument check during taxi

Gyroscopic and electronic attitude and heading instruments

- Vacuum and electric gyroscopic instruments
- AHRS-based attitude and heading displays
- Heading indicator and magnetic compass errors
- Turn coordinator and slip/skid indicator
- Standby instruments and their power sources

Glass cockpit and navigator displays (as installed)

- PFD and MFD layout and reversionary modes
- Annunciations, alerts, and failure indications

COMPLETION STANDARDS:

- The student will demonstrate understanding of IFR equipment requirements, instrument system operation, and instrument errors during oral quizzing at the completion of the lesson.

Ground Lesson 3: Attitude instrument flying & instrument failure

OBJECTIVES:

- Learn the fundamental skills of attitude instrument flying: cross-check, interpretation, and aircraft control.
- Learn to recognize instrument failures and to fly the airplane with a partial panel.
- Learn the recovery procedures for unusual flight attitudes.

SCHEDULE: 3.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- Instrument Flying Handbook
- POH

LESSON ELEMENTS:

Fundamental skills

- Instrument cross-check, interpretation, and aircraft control
- Control and performance method; primary and supporting method
- Power and configuration table for the training airplane
- Common cross-check errors: fixation, omission, emphasis

Basic flight maneuvers

- Straight-and-level flight
- Standard-rate turns and steep turns
- Constant airspeed and constant rate climbs and descents
- Level-offs and turns to headings
- Slow flight and stalls by instrument reference

Coping with instrument failure

- Identifying a failed instrument
- Attitude and heading indicator failure
- Partial panel flying: magnetic compass turns and timed turns
- Pitot-static failures
- Display and AHRS failures on glass cockpits

Unusual attitude recovery

- Nose-high and nose-low recoveries
- Partial panel recoveries
- Upset prevention and the role of the autopilot

COMPLETION STANDARDS:

- The student will demonstrate understanding of attitude instrument flying and partial panel procedures during oral quizzing at the completion of the lesson.

Ground Lesson 4: Navigation systems: VOR, DME, GPS & autopilot

OBJECTIVES:

- Learn the function, use, and limitations of VOR, DME, and GPS navigation, and the basics of NDB navigation.
- Gain a working knowledge of the IFR GPS navigator and autopilot installed in the training airplane.

SCHEDULE: 4.0 h self-study + 1.5 h 1-on-1

MATERIAL REQUIRED:

- Instrument Flying Handbook
- AIM
- avionics pilot's guide

LESSON ELEMENTS:

VOR and DME

- Course deviation indicator and HSI
- Orientation, intercepting, and tracking radials
- Time and distance to a station; station passage
- VOR limitations and the VOR Minimum Operational Network (MON)
- DME and DME arcs

GPS and RNAV

- GPS and WAAS principles
- RAIM and fault detection; GPS NOTAMs and interference
- Navigation database currency
- Flight plan entry, direct-to, and course sequencing
- CDI scaling and modes (enroute, terminal, approach)
- GPS substitution for DME and ADF

NDB and ADF (awareness)

- Orientation, homing, and tracking concepts

Autopilot and automation

- Autopilot modes installed in the training airplane
- Coupling the autopilot to the navigator
- Automation management and when to hand-fly

COMPLETION STANDARDS:

- The student will demonstrate understanding of the use and limitations of each navigation system and of the installed navigator and autopilot during oral quizzing at the completion of the lesson.

Ground Lesson 5: Regulations for instrument flight

OBJECTIVES:

- Become familiar with the Federal Aviation Regulations that apply to instrument flight and instrument currency.
- Understand the reporting requirements of NTSB Part 830.

SCHEDULE: **3.0 h self-study + 1.0 h 1-on-1**

MATERIAL REQUIRED:

- FAR/AIM

LESSON ELEMENTS:

14 CFR Part 1 and Part 61

- IFR definitions and abbreviations
- Instrument rating requirements (61.65)
- Instrument experience and the instrument proficiency check (61.57(c), (d))
- Logging instrument time and safety pilot time (61.51(g))

14 CFR Part 91

- IFR flight plan and clearance (91.169, 91.173)
- Fuel requirements for flight in IFR conditions (91.167)
- Alternate airport requirements and alternate minimums (91.169)
- Takeoff and landing under IFR (91.175)
- Minimum altitudes for IFR operations (91.177)
- IFR cruising altitudes (91.179)
- Course to be flown (91.181)
- IFR communications and malfunction reports (91.183, 91.187)
- Two-way radio communications failure (91.185)

NTSB Part 830

- Accidents, incidents, and reporting requirements

COMPLETION STANDARDS:

- The student will demonstrate understanding of the regulations for instrument flight during oral quizzing at the completion of the lesson.

Ground Lesson 6: Airports, airspace & flight information

OBJECTIVES:

- Review the airport environment, with emphasis on the lighting and markings used in instrument operations.
- Gain specific knowledge of the National Airspace System as it applies to IFR flight, and of the sources of flight information.

SCHEDULE: 2.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- FAR/AIM
- Chart Supplement

LESSON ELEMENTS:

Airport environment

- Runway markings for precision and non-precision runways
- Signs, ILS critical areas, and hold-short markings
- Runway incursion avoidance and LAHSO
- Approach light systems and visual glideslope indicators
- Runway lighting and pilot-controlled lighting

Airspace

- Class A, B, C, D, E, and G airspace under IFR
- IFR in Class G airspace
- The Orlando Class B airspace and its effect on X04 arrivals and departures
- Special use airspace and temporary flight restrictions
- Aircraft speed limits

Flight information

- Aeronautical Information Manual
- Chart Supplement
- NOTAMs, including FDC and GPS NOTAMs
- Advisory circulars
- Electronic flight bags and database currency

COMPLETION STANDARDS:

- The student will demonstrate understanding of the airport environment, airspace, and sources of flight information during oral quizzing at the completion of the lesson.

Ground Lesson 7: ATC system, services & clearances

OBJECTIVES:

- Learn the services provided by the air traffic control system and the enroute and terminal facilities used under IFR.
- Become familiar with ATC clearance procedures and gain experience using clearance shorthand.

SCHEDULE: 3.0 h self-study + 1.5 h 1-on-1

MATERIAL REQUIRED:

- AIM
- Instrument Procedures Handbook

LESSON ELEMENTS:

Air traffic control system

- Air Route Traffic Control Centers (Jacksonville Center)
- Terminal radar facilities (Orlando Approach)
- Control towers, ATIS, and clearance delivery
- Flight service stations
- Radar services, safety alerts, and emergency assistance

IFR clearances

- Filing an IFR flight plan
- Elements of an IFR clearance (CRAFT)
- Obtaining a clearance at a non-towered airport such as X04: by phone, by radio, and the clearance void time
- Departure restrictions and release times
- Clearance readback and shorthand
- VFR-on-top and VFR restrictions to an IFR clearance
- Composite flight plans and pop-up clearances
- Tower enroute control (TEC)
- Approach clearances and cancelling IFR

COMPLETION STANDARDS:

- The student will demonstrate understanding of ATC services, pilot responsibilities, and clearance procedures during oral quizzing at the completion of the lesson.

Ground Lesson 8: Stage exam

OBJECTIVES:

- Demonstrate comprehension of the material presented in Instrument Stage 1.

SCHEDULE: 2.0 h

LESSON ELEMENTS:

Instrument Stage 1 exam

- Human factors and physiology
- Flight instrument systems
- Attitude instrument flying
- Navigation systems
- Regulations and NTSB Part 830
- Airports, airspace, and flight information
- ATC services and clearances

COMPLETION STANDARDS:

- The lesson and stage are complete when the student has completed the Stage 1 exam with a minimum score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before progressing to the next stage.

Stage 2 – Ground Lessons

OBJECTIVES:

- During this stage, the student will learn to read and use IFR charts and will learn the procedures for IFR departures, enroute operations, holding, arrivals, and each type of instrument approach.

COMPLETION STANDARDS:

- This stage is complete when the student has taken the Instrument Stage 2 written 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 next stage.

EXPECTATIONS:

- The student is expected to review and study the lessons' related material and attend each session prepared to progress through the course.

Ground Lesson 9: Departure charts & procedures

OBJECTIVES:

- Learn the format and symbology of departure procedures.
- Gain a working knowledge of IFR departure options and how to select one, including departures from non-towered airports.

SCHEDULE: 2.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- Instrument Procedures Handbook
- Terminal Procedures Publication
- AIM

LESSON ELEMENTS:

Departure procedures

- Obstacle departure procedures (ODPs) and standard instrument departures (SIDs)
- Pilot navigation and vector SIDs
- Takeoff minimums and non-standard takeoff minimums
- Climb gradients and the diverse departure assessment
- Graphic and textual ODPs

Departure options

- Radar departures and assigned headings
- VFR departures and picking up a clearance in the air
- Departing X04: its published takeoff minimums and departure procedure, clearance by phone, and void times
- Selecting a departure method for terrain, obstacles, and weather

COMPLETION STANDARDS:

- The student will demonstrate understanding of departure procedures and the selection of a departure method during oral quizzing at the completion of the lesson.

Ground Lesson 10: Enroute charts & procedures

OBJECTIVES:

- Gain a working knowledge of IFR enroute low altitude charts.
- Learn the procedures for IFR enroute operations.

SCHEDULE: 3.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- IFR Enroute Low Altitude chart
- Instrument Procedures Handbook
- AIM

LESSON ELEMENTS:

Enroute charts

- Chart legend and navigation aids
- Victor airways and T-routes
- MEA, MOCA, MRA, MCA, MAA, and OROCA
- Changeover points and fixes
- Communications information
- Airports and airspace depiction

Enroute procedures

- Radar and non-radar position reporting
- Enroute navigation with GPS; direct routing and random routes
- IFR cruising altitudes
- Special use airspace and TFRs under IFR
- Climbs, descents, and cruise clearances
- Descending from the enroute structure

COMPLETION STANDARDS:

- The student will demonstrate understanding of enroute charts and enroute navigation and communication procedures during oral quizzing at the completion of the lesson.

Ground Lesson 11: Holding procedures

OBJECTIVES:

- Gain a working knowledge of holding patterns, including entries, timing, wind correction, and ATC instructions.

SCHEDULE: 2.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- AIM
- Instrument Procedures Handbook

LESSON ELEMENTS:

- Standard and non-standard holding patterns
- Holding at VOR, intersection, DME, and GPS fixes
- Direct, teardrop, and parallel entries
- Outbound and inbound timing; leg lengths in nm
- Wind correction (triple drift)
- Maximum holding speeds
- ATC holding instructions and expect-further-clearance times
- Holding in lieu of a procedure turn
- Holding with the GPS navigator and the autopilot

COMPLETION STANDARDS:

- The student will demonstrate understanding of holding entries and procedures during oral quizzing at the completion of the lesson.

Ground Lesson 12: Arrival charts & procedures

OBJECTIVES:

- Gain a working knowledge of standard terminal arrivals and the transition from enroute to approach.

SCHEDULE: 2.0 h self-study + 0.5 h 1-on-1

MATERIAL REQUIRED:

- Terminal Procedures Publication
- Instrument Procedures Handbook

LESSON ELEMENTS:

- Standard terminal arrivals (STARs), including the RNAV arrival into X04
- “Descend via” clearances and altitude and speed restrictions
- Vertical navigation planning
- Preparing for the arrival: weather, approach selection, and briefing
- Arrivals into the Orlando terminal area

COMPLETION STANDARDS:

- The student will demonstrate understanding of arrival charts and procedures during oral quizzing at the completion of the lesson.

Ground Lesson 13: Approach charts & approach procedures

OBJECTIVES:

- Learn to interpret every element of an instrument approach chart and airport diagram.
- Learn the procedures for flying an approach from the enroute segment to the landing or the missed approach.

SCHEDULE: 4.0 h self-study + 1.5 h 1-on-1

MATERIAL REQUIRED:

- Terminal Procedures Publication
- Instrument Procedures Handbook
- AIM

LESSON ELEMENTS:

Approach charts

- Approach segments: feeder, initial, intermediate, final, and missed
- Heading and briefing strip; minimum safe altitude
- Plan view, profile view, and missed approach icons
- Step-down fixes and visual descent points
- Landing minimums, approach categories, and inoperative components
- Airport diagrams, takeoff and alternate minimums

Approach procedures

- The approach briefing
- Approach clearances and radar vectors to final
- Straight-in approaches and approaches requiring a course reversal
- Procedure turns and holding in lieu of a procedure turn
- Descent below MDA or DA (14 CFR 91.175)
- Circling approaches and circling protected areas, using X04's RNAV (GPS)-A and -B as examples
- Sidestep maneuvers
- Missed approach procedures and climb gradients
- Visual and contact approaches

COMPLETION STANDARDS:

- The student will demonstrate understanding of approach charts and approach procedures during oral quizzing at the completion of the lesson.

Ground Lesson 14: VOR, localizer & ILS approaches

OBJECTIVES:

- Learn the procedures for VOR, localizer, and ILS approaches.

SCHEDULE: 3.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- Instrument Procedures Handbook
- Terminal Procedures Publication

LESSON ELEMENTS:

VOR approaches

- On-airport and off-airport facilities
- VOR/DME approaches

Localizer and ILS approaches

- ILS components and categories
- Inoperative components
- Flying the ILS and the localizer
- Localizer back course, LDA, and SDF (awareness)
- Radar vectors to the final approach course
- Approaches to parallel runways

NDB approaches (awareness)

- Procedures and GPS substitution

COMPLETION STANDARDS:

- The student will demonstrate understanding of VOR, localizer, and ILS approach procedures during oral quizzing at the completion of the lesson.

Ground Lesson 15: RNAV (GPS) approaches

OBJECTIVES:

- Become familiar with RNAV (GPS) approach design, the lines of minima, and the equipment and database requirements for each.

SCHEDULE: 3.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- Instrument Procedures Handbook
- AIM
- avionics pilot's guide

LESSON ELEMENTS:

- RNAV (GPS) approach design and terminal arrival areas (TAAs)
- Waypoints: fly-by, fly-over, IAF, IF, FAF, MAP
- Lines of minima: LPV, LNAV/VNAV, LNAV+V, LNAV, and circling
- WAAS, integrity, and loss of vertical guidance
- Using an RNAV (GPS) approach as an alternate (91.169 and the AIM)
- Loading, activating, and flying approaches in the installed navigator
- Vectors-to-final and approach mode annunciations
- Coupled approaches with the autopilot

COMPLETION STANDARDS:

- The student will demonstrate understanding of RNAV (GPS) approach procedures, minima, and limitations during oral quizzing at the completion of the lesson.

Ground Lesson 16: Stage exam

OBJECTIVES:

- Demonstrate comprehension of the material presented in Instrument Stage 2.

SCHEDULE: 2.0 h

LESSON ELEMENTS:

Instrument Stage 2 exam

- Departure charts and procedures
- Enroute charts and procedures
- Holding
- Arrival charts and procedures
- Approach charts and procedures
- VOR, localizer, ILS, and RNAV (GPS) approaches

COMPLETION STANDARDS:

- The lesson and stage are complete when the student has completed the Stage 2 exam with a minimum score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before progressing to the next stage.

Stage 3 – Ground Lessons

OBJECTIVES:

- During this stage, the student will learn to analyze weather information, conditions, and trends on the ground and in flight, with emphasis on the hazards that most affect IFR flight in Florida: convective weather, low ceilings and fog, and icing on flights north. The student will also learn IFR emergency procedures and IFR flight planning, and will develop a greater understanding of the decision-making process.

COMPLETION STANDARDS:

- This stage is complete when the student has taken the Instrument Stage 3 written exam and the end-of-course exam with minimum passing scores of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding.

EXPECTATIONS:

- The student is expected to review and study the lessons' related material and attend each session prepared to progress through the course.

Ground Lesson 17: Meteorology & weather hazards

OBJECTIVES:

- Become familiar with the factors that produce weather and with the hazards they create for IFR flight.
- Learn to recognize critical weather situations from the ground and in flight.

SCHEDULE: **4.0 h self-study + 1.5 h 1-on-1**

MATERIAL REQUIRED:

- Aviation Weather Handbook

LESSON ELEMENTS:

Weather factors

- The atmosphere, pressure, and wind
- Moisture, stability, and cloud formation
- Air masses and fronts
- Florida weather patterns: the sea breeze, summer convection, winter fronts, and radiation and advection fog

Weather hazards

- Thunderstorms: life cycle, embedded cells, and avoidance distances
- Turbulence and wake turbulence
- Low-level wind shear and microbursts
- Structural and induction icing; freezing level and flight into known icing
- Low ceilings and visibility
- Hydroplaning and wet runways

COMPLETION STANDARDS:

- The student will demonstrate understanding of weather factors and weather hazards during oral quizzing at the completion of the lesson.

Ground Lesson 18: Weather reports, forecasts & sources

OBJECTIVES:

- Learn to obtain and interpret current weather reports, forecasts, and graphic products.
- Learn to use preflight and in-flight weather sources, and their limitations, to make go/no-go and diversion decisions.

SCHEDULE: 4.0 h self-study + 1.5 h 1-on-1

MATERIAL REQUIRED:

- Aviation Weather Handbook
- AIM

LESSON ELEMENTS:

Reports and forecasts

- METAR, SPECI, and PIREP
- Terminal aerodrome forecast (TAF)
- Graphical forecasts for aviation (GFA)
- AIRMETs (G-AIRMETs), SIGMETs, convective SIGMETs, and center weather advisories
- Winds and temperatures aloft
- Surface analysis and prognostic charts
- Radar, satellite, and lightning products
- Icing and turbulence products (CIP/FIP, GTG)

Weather sources

- Flight service briefings: standard, abbreviated, and outlook
- Aviationweather.gov and electronic flight bags
- ATIS, ASOS, and AWOS
- FIS-B (ADS-B In) weather and the age and limitations of datalinked radar
- ATC weather advisories and PIREP reporting

COMPLETION STANDARDS:

- The student will demonstrate the ability to obtain, interpret, and apply weather reports and forecasts to an IFR flight during oral quizzing at the completion of the lesson.

Ground Lesson 19: IFR emergencies

OBJECTIVES:

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

SCHEDULE: 2.0 h self-study + 1.0 h 1-on-1

MATERIAL REQUIRED:

- AIM
- Instrument Flying Handbook
- POH

LESSON ELEMENTS:

- Declaring an emergency and emergency authority
- Minimum fuel and emergency fuel
- Attitude, heading, and display failures; partial panel approaches
- Two-way radio communications failure (91.185)
- Electrical system failure and load shedding
- Loss of GPS or WAAS; reverting to ground-based navigation
- Inadvertent thunderstorm or icing encounter
- Engine failure in instrument conditions
- Malfunction reports (91.187)

COMPLETION STANDARDS:

- The student will demonstrate the ability to recognize and respond to IFR emergency situations during oral quizzing at the completion of the lesson.

Ground Lesson 20: IFR decision making & flight planning

OBJECTIVES:

- Obtain the knowledge needed to plan an IFR cross-country flight from start to finish.
- Recognize the factors that lead to IFR accidents and apply risk management to the go/no-go decision.

SCHEDULE: 3.0 h self-study + 1.5 h 1-on-1

MATERIAL REQUIRED:

- Risk Management Handbook
- Instrument Procedures Handbook
- FAR/AIM

LESSON ELEMENTS:

IFR decision making

- The decision-making process and risk assessment (PAVE, 3P)
- IFR accident causes and the poor judgment chain
- Controlled flight into terrain
- Personal minimums for IFR flight
- Single-pilot resource management

IFR flight planning

- Route selection and preferred IFR routes
- Altitude selection and MEAs
- Weather analysis and alternate selection (91.169)
- Fuel planning (91.167)
- Completing the IFR navigation log
- Filing, amending, and cancelling the IFR flight plan
- Planning a 250 nm IFR cross-country with three types of approaches

COMPLETION STANDARDS:

- The student will plan a complete IFR cross-country flight and demonstrate understanding of IFR decision making during oral quizzing at the completion of the lesson.

Ground Lesson 21: Stage exam

OBJECTIVES:

- Demonstrate comprehension of the material presented in Instrument Stage 3.

SCHEDULE: 2.0 h

LESSON ELEMENTS:

Instrument Stage 3 exam

- Meteorology and weather hazards
- Weather reports, forecasts, and sources
- IFR emergencies
- IFR decision making and flight planning

COMPLETION STANDARDS:

- The lesson is complete when the student has completed the Stage 3 exam with a minimum score of 80%, and the instructor has reviewed each incorrect response to ensure complete understanding before the end-of-course exam.

Ground Lesson 22: End-of-course exam

OBJECTIVES:

- Demonstrate comprehension of all material in the ground course in preparation for the FAA Instrument Rating – Airplane knowledge test.

SCHEDULE: 2.0 h

LESSON ELEMENTS:

End-of-course exam

- Principles of instrument flight and human factors
- Regulations and the airspace system
- Departure, enroute, arrival, and approach charts and procedures
- Meteorology
- IFR emergencies, decision making, and flight planning

COMPLETION STANDARDS:

- The lesson and the ground course are complete when the student has completed the end-of-course exam with a minimum score of 80%, and the instructor has reviewed each incorrect response. The instructor then issues the knowledge test endorsement.

Stage 1 – Flight Lessons

INTRODUCTION:

Through the flight lessons, the student will obtain the skill and aeronautical experience necessary to meet the requirements for an instrument rating – airplane.

COURSE COMPLETION STANDARDS:

The student must demonstrate through flight checks and show through appropriate records that he or she meets the flight proficiency and aeronautical experience requirements of 14 CFR 61.65(c) and (d).

STAGE 1 OBJECTIVES:

During this stage, the student learns precise attitude control by instrument reference, with full and partial panel, recovers from unusual attitudes, and learns to use each navigation system and the autopilot, ending with holding patterns. Lessons 1–8 cover attitude instrument flying, partial panel skills, recovery from unusual attitudes, and intercepting and tracking navigation systems; the instructor notes this in each logbook entry so the time can also be credited toward 14 CFR 61.129(a)(3)(i) for the commercial certificate.

STAGE 1 COMPLETION STANDARDS:

At the completion of this stage, the student will demonstrate precise attitude control by instrument reference, full and partial panel, accurate use of each navigation system with constant positional awareness, and correct holding entries and procedures, to the standards of the current Instrument Rating – Airplane ACS.

Flight Lesson 1 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.8	1.5	1.3	0.2

OBJECTIVES:

- Become familiar with the IFR equipment of the training airplane and the instrument cockpit check.
- Practice attitude instrument flight with full panel, with emphasis on cross-check, interpretation, and control.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ IFR equipment and inspections (91.205(d), 91.411, 91.413, 91.171) ❑ Instrument cockpit check ❑ Power and configuration table ❑ Primary and supporting instruments ❑ Use of the view-limiting device and positive exchange of flight controls ❑ X04 takeoff minimums and departure procedure ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Instrument cockpit check and VOR check ❑ Straight-and-level flight ❑ Standard-rate turns and turns to headings ❑ Constant airspeed climbs and descents ❑ Level-offs	❑ Normal takeoff and landing ❑ Radio communications with Orlando Approach ❑ Collision avoidance and Class B awareness ❑ Postflight procedures

COMPLETION STANDARDS:

- The student performs the instrument cockpit check with minimal assistance.
- The student maintains altitude ±200 ft, heading ±15°, airspeed ±15 kt, and bank within ±5° of standard rate.

Flight Lesson 2 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.3	0.2

OBJECTIVES:

- Develop full-panel attitude instrument flying through the basic and advanced instrument maneuvers.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Control and performance method	❑ Constant rate climbs and descents	❑ Instrument cockpit check
❑ Common cross-check errors	❑ Climbing and descending turns	❑ Straight-and-level flight and standard-rate turns
❑ Slow flight and stalls by instrument reference	❑ Changes of airspeed in straight and turning flight	❑ Constant airspeed climbs and descents
❑ Performance and limitations	❑ Steep turns	❑ Postflight procedures
❑ Weather and NOTAM information	❑ Slow flight and power-on and power-off stalls by instrument reference	

COMPLETION STANDARDS:

- The student maintains altitude ±200 ft, heading ±15°, airspeed ±15 kt, and climb or descent rate ±150 fpm.
- The student recognizes and recovers from stalls by instrument reference without assistance.

Flight Lesson 3 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.3	0.2

OBJECTIVES:

- Introduce partial panel flight and the recognition of failed instruments.
- Introduce recovery from unusual flight attitudes.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Recognizing a failed attitude or heading indicator, or a failed display ❑ Partial panel cross-check ❑ Magnetic compass errors ❑ Unusual attitude recovery procedures ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Partial panel straight-and-level flight, standard-rate turns, climbs, and descents ❑ Timed turns to magnetic compass headings ❑ Magnetic compass turns ❑ Recovery from nose-high and nose-low unusual attitudes, full and partial panel	❑ Full-panel maneuvers ❑ Steep turns ❑ Postflight procedures

COMPLETION STANDARDS:

- The student identifies a simulated instrument failure and transitions to partial panel without loss of control.
- The student recovers from unusual attitudes promptly and without exceeding airplane limits.
- The student maintains altitude ±200 ft, heading ±15°, and airspeed ±15 kt on partial panel.

Flight Lesson 4 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.3	0.2

OBJECTIVES:

- Introduce VOR orientation and tracking, localizer tracking, and DME arcs.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ VOR, VOT, and VOR checks	❑ VOR orientation	❑ Partial panel maneuvers
❑ Localizer characteristics and sensitivity	❑ Intercepting and tracking VOR radials, inbound and outbound	❑ Unusual attitude recovery
❑ DME and DME arcs (or GPS-defined arcs)	❑ Time and distance to a station; station passage	❑ Postflight instrument and equipment check
❑ Performance and limitations	❑ Localizer tracking (front course)	
❑ Weather and NOTAM information	❑ Intercepting and tracking a DME arc	

COMPLETION STANDARDS:

- The student intercepts and tracks VOR radials and the localizer within three-quarter-scale deflection of the CDI.
- The student maintains altitude ±200 ft, heading ±15°, and airspeed ±15 kt.

Flight Lesson 5 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.3	0.2

OBJECTIVES:

- Introduce IFR navigation with the installed GPS navigator and the autopilot.
- Learn to recognize GPS failures and revert to ground-based navigation.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ GPS flight plan entry and database currency ❑ CDI scaling and navigation source selection ❑ RAIM, integrity alerts, and GPS NOTAMs ❑ Autopilot modes and automation management ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Direct-to and flight plan navigation ❑ Intercepting and tracking GPS courses ❑ Autopilot operation: heading, navigation, and altitude modes ❑ Simulated GPS failure and reversion to VOR navigation ❑ NDB orientation and tracking concepts (GPS substitution)	❑ VOR tracking ❑ DME or GPS arcs ❑ Postflight procedures

COMPLETION STANDARDS:

- The student programs and navigates with the GPS navigator, with and without the autopilot, and keeps positional awareness after a simulated GPS failure.
- The student maintains altitude ±150 ft, heading ±10°, airspeed ±10 kt, and courses within three-quarter-scale deflection.

Flight Lesson 6 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.3	0.2

OBJECTIVES:

- Introduce standard and non-standard holding patterns at VOR and GPS fixes.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Holding pattern terminology ❑ Entry procedures and visualizing entries ❑ Timing and wind correction ❑ Maximum holding speeds ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Holding at a VOR: standard and non-standard ❑ Holding at a GPS waypoint ❑ Direct, teardrop, and parallel entries ❑ Holding with the autopilot	❑ VOR and GPS tracking ❑ Systems and equipment malfunctions ❑ Full-panel maneuvers

COMPLETION STANDARDS:

- The student selects and flies the correct holding entry.
- The student maintains altitude ±150 ft, airspeed ±15 kt, heading ±15°, and the holding course within three-quarter-scale deflection.

Flight Lesson 7 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.3	0.2

OBJECTIVES:

- Develop proficiency in holding at intersections and distance-defined fixes, and in holds issued by ATC.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Published holds and ATC holding instructions ❑ Holding at intersections and DME or GPS distance fixes ❑ Expect-further-clearance times and lost communications ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Intersection holds ❑ DME or GPS distance holds ❑ Holds issued by ATC (simulated or with Orlando Approach) ❑ Partial panel holding	❑ VOR and GPS holds ❑ Unusual attitude recovery ❑ Postflight procedures

COMPLETION STANDARDS:

- The student copies a holding clearance, selects the correct entry, and flies the hold without assistance.
- The student maintains altitude ±100 ft, airspeed ±10 kt, heading ±10°, and the holding course within three-quarter-scale deflection.

Flight Lesson 8 – Stage Check – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.8	1.5	1.3	0.2

OBJECTIVES:

- The chief instructor evaluates the student's attitude instrument flying, full and partial panel, navigation, and holding.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	Review Elements continued
❑ Maneuvers, procedures, and acceptable performance criteria ❑ Flight instruments and navigation equipment ❑ Applicable rules ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Instrument cockpit check ❑ Full-panel basic and advanced maneuvers ❑ Partial panel maneuvers and compass turns	❑ Recovery from unusual attitudes ❑ VOR, localizer, and GPS navigation; DME or GPS arcs ❑ Holding: VOR, intersection, and GPS

COMPLETION STANDARDS:

- The student performs each listed task to the current Instrument Rating – Airplane ACS: altitude ±100 ft, heading ±10°, airspeed ±10 kt, and courses within three-quarter-scale deflection.

Stage 2 – Flight Lessons

OBJECTIVES:

During this stage, the student learns to brief and fly each type of instrument approach, straight-in and circling, with and without the autopilot, and with partial panel, and learns to operate in the IFR system around Orlando from clearance to landing. Approaches are flown at X04 and at nearby airports chosen by the instructor, so that by the end of the stage the student has flown every approach type required by the ACS.

COMPLETION STANDARDS:

This stage is complete when the student can fly departure, holding, and approach procedures, including missed approaches and circling approaches, to the standards of the current Instrument Rating – Airplane ACS, and can obtain and comply with IFR clearances without assistance.

Flight Lesson 9 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Introduce the RNAV (GPS) approach, from the approach briefing to the landing or the missed approach.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Approach chart format and symbols ❑ The approach briefing ❑ Terminal arrival areas and initial approach fixes ❑ LNAV and LPV lines of minima ❑ Missed approach procedures ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Loading and activating an RNAV (GPS) approach ❑ RNAV (GPS) approach, straight-in, to LNAV and LPV minima ❑ Missed approach procedure ❑ Circle-to-land at X04 from the RNAV (GPS)-A or -B (visual conditions)	❑ GPS navigation and holding ❑ Autopilot operation ❑ Postflight procedures

COMPLETION STANDARDS:

- The student briefs the approach, flies the initial, intermediate, and final segments, and executes the missed approach as published with instructor assistance.
- The student explains each item on the approach chart.

Flight Lesson 10 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Introduce non-precision approaches using ground-based navigation: VOR and localizer.
- Develop the judgment to choose a straight-in or circling landing.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Step-down fixes and visual descent points ❑ Straight-in and circling minimums ❑ Descent below MDA (91.175) ❑ Performance and limitations ❑ Weather and NOTAM information	❑ VOR or VOR/DME approach (as available) ❑ Localizer approach ❑ Circling approach ❑ Straight-in landing from an instrument approach	❑ RNAV (GPS) approach ❑ Missed approach procedures ❑ Holding as required

COMPLETION STANDARDS:

- The student flies each approach with minimal assistance and correctly decides between a straight-in and a circling landing.
- The student maintains altitude ±100 ft before the final approach fix and the MDA +100/−0 ft, with the course within three-quarter-scale deflection.

Flight Lesson 11 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Introduce precision and vertically guided approaches: the ILS and the RNAV (GPS) approach to LPV minima.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ ILS components and inoperative components ❑ Glideslope and glidepath intercept ❑ Decision altitude and the decision to land or go around ❑ Performance and limitations ❑ Weather and NOTAM information	❑ ILS approach ❑ RNAV (GPS) approach to LPV minima, hand-flown ❑ Radar vectors to the final approach course	❑ Localizer approach ❑ Missed approach procedures ❑ Holding as required

COMPLETION STANDARDS:

- The student flies the ILS and LPV approaches with lateral and vertical guidance within three-quarter-scale deflection, with minimal assistance.
- The student makes a timely decision at DA and flies the missed approach as published.

Flight Lesson 12 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Introduce full approach procedures with course reversals, and departure procedures.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Procedure turns and holding in lieu of a procedure turn ❑ DME arc and RNAV transitions ❑ Obstacle departure procedures and SIDs ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Departure following the X04 departure procedure or an assigned SID ❑ Full approach with a procedure turn or hold in lieu ❑ Approach transition via a DME arc or RNAV feeder route	❑ ILS or LPV approach ❑ Non-precision approach ❑ Missed approach to a hold

COMPLETION STANDARDS:

- The student flies a departure procedure and a full approach procedure with course reversal without assistance.
- The student maintains altitude ±100 ft, heading ±10°, airspeed ±10 kt, and courses within three-quarter-scale deflection.

Flight Lesson 13 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Introduce partial panel approaches and autopilot-coupled approaches.
- Practice the response to a loss of vertical guidance or of the GPS during an approach.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Partial panel approach technique ❑ Autopilot approach mode and its limitations ❑ Loss of WAAS, integrity alerts, and reverting to LNAV minima ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Non-precision approach without the primary attitude and heading instruments ❑ Autopilot-coupled RNAV (GPS) or ILS approach ❑ Simulated loss of vertical guidance during an approach	❑ Partial panel maneuvers and unusual attitude recovery ❑ Missed approach procedures ❑ Postflight procedures

COMPLETION STANDARDS:

- The student flies a partial panel non-precision approach and manages the autopilot through an approach, with minimal assistance.
- The student responds correctly to a simulated loss of vertical guidance.

Flight Lesson 14 – Dual IFR in the Orlando Terminal Area

Preflight Brief	Dual	Instrument	Post Brief
0.8	2.0	1.8	0.2

OBJECTIVES:

- Plan, file, and fly a complete IFR flight in the Orlando terminal area: clearance, departure, enroute, arrival, approach, and missed approach.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Filing an IFR flight plan ❑ Obtaining a clearance at X04 and clearance void times ❑ Arrival and approach selection at a nearby towered airport (for example Leesburg, Orlando Executive, or Orlando Sanford) ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Copying and reading back a clearance ❑ IFR departure from a non-towered airport ❑ Enroute and terminal communications with Orlando Approach ❑ Approach at a towered airport and a published or ATC-assigned missed approach ❑ Return to X04 under IFR	❑ Holding as assigned ❑ RNAV (GPS), ILS, and localizer approaches ❑ Aeronautical decision making and single-pilot resource management

COMPLETION STANDARDS:

- The student plans and flies the IFR flight with minimal assistance, complying with ATC clearances and instructions.
- The student maintains altitude ±100 ft, heading ±10°, airspeed ±10 kt, and courses within three-quarter-scale deflection.

Flight Lesson 15 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Develop proficiency in circling approaches, missed approaches, and approaches at unfamiliar airports.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Circling protected areas and maneuvering ❑ Sidestep maneuvers ❑ Visual and contact approaches ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Approaches at an airport not previously visited ❑ Missed approach to a published hold ❑ Visual approach under IFR	❑ Circling approaches ❑ Straight-in landings ❑ Approach briefing

COMPLETION STANDARDS:

- The student briefs and flies an unfamiliar approach, circling maneuver, and missed approach to a hold without assistance.

Flight Lesson 16 – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Bring every approach type to ACS standards in preparation for the stage check.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	
❑ Planned approaches ❑ Acceptable performance criteria ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Instructor-selected approaches: at least one precision or LPV and one non-precision ❑ Holding as assigned ❑ Missed approach procedures ❑ Partial panel approach	

COMPLETION STANDARDS:

- The student flies each approach without instructor input, within three-quarter-scale deflection, altitude ±100 ft before the final approach fix, and MDA +100/−0 ft or a timely decision at DA.

Flight Lesson 17 – Stage Check – Dual Local IFR

Preflight Brief	Dual	Instrument	Post Brief
0.8	2.0	1.8	0.2

OBJECTIVES:

- The chief instructor evaluates the student's proficiency in departure, holding, and instrument approach procedures, and in operating in the IFR system.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	Review Elements continued
❑ Maneuvers, procedures, and acceptable performance criteria ❑ Applicable rules ❑ Performance and limitations ❑ Weather and NOTAM information	❑ ATC clearance and IFR departure ❑ Holding ❑ Precision or LPV approach ❑ Non-precision approach	❑ Partial panel non-precision approach ❑ Circling approach ❑ Missed approach procedures ❑ Landing from a straight-in approach

COMPLETION STANDARDS:

- The student performs each listed task to the current Instrument Rating – Airplane ACS.

Stage 3 – Flight Lessons

OBJECTIVES:

During this stage, the student plans and flies IFR cross-country flights, including the 250 nm IFR cross-country required by 14 CFR 61.65(d)(2)(ii), handles simulated emergencies in the IFR system, and polishes every task to practical test standards.

COMPLETION STANDARDS:

This stage is complete when the student performs every task in the current Instrument Rating – Airplane ACS at the standard of an instrument-rated pilot, exercises sound judgment throughout, and has met every aeronautical experience requirement of 14 CFR 61.65(d).

Flight Lesson 18 – Dual IFR Cross-Country

Preflight Brief	Dual	Instrument	Dual cross-country	Post Brief
0.8	2.5	2.2	2.5	0.2

OBJECTIVES:

- Plan and fly a complete IFR cross-country flight to an airport more than 50 nm from X04, for example Gainesville or Melbourne.
- Apply aeronautical decision making and cockpit management on an IFR cross-country.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ IFR cross-country flight planning and the navigation log ❑ Weather analysis, alternate requirements, and fuel planning ❑ Aircraft performance, limitations, and systems for IFR cross-country ❑ Filing the IFR flight plan ❑ Icing, convective weather, and turbulence ❑ Weather and NOTAM information	❑ IFR cross-country departure, enroute, and arrival ❑ Enroute course and altitude changes ❑ Calculating ETEs and ETAs ❑ Approach and landing at an unfamiliar airport ❑ Return flight on a new IFR clearance	❑ Departure procedures ❑ Holding as assigned ❑ RNAV (GPS), ILS, and non-precision approaches ❑ Single-pilot resource management

COMPLETION STANDARDS:

- The student plans the flight completely and accurately, complies with ATC clearances, and keeps command of the airplane throughout.
- The flight includes a landing more than 50 nm in a straight line from X04.

Flight Lesson 19 – Dual IFR Cross-Country

Preflight Brief	Dual	Instrument	Dual cross-country	Post Brief
0.8	2.5	2.2	2.5	0.2

OBJECTIVES:

- Develop proficiency in IFR cross-country flight with approaches at two unfamiliar airports and a diversion to an alternate.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Route and altitude selection ❑ Alternate selection and diversion planning ❑ Weather information related to IFR cross-country ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Diversion to an alternate airport under IFR ❑ Enroute holding ❑ Approaches at two unfamiliar airports	❑ IFR cross-country procedures ❑ Missed approach procedures ❑ Aeronautical decision making and judgment

COMPLETION STANDARDS:

- The student flies the cross-country, the diversion, and the approaches with minimal assistance, to ACS standards.
- The flight includes a landing more than 50 nm in a straight line from X04.

Flight Lesson 20 – Dual IFR Cross-Country – Emergencies

Preflight Brief	Dual	Instrument	Dual cross-country	Post Brief
0.8	2.5	2.2	2.5	0.2

OBJECTIVES:

- Practice simulated emergency and abnormal procedures during an IFR cross-country flight.

LESSON ELEMENTS:

Preflight Discussion	New Elements this Flight	Review Elements this Flight
❑ Two-way radio communications failure (91.185) ❑ Loss of attitude and heading instruments or displays ❑ Electrical failure and load shedding ❑ Loss of GPS or WAAS ❑ Low fuel and engine failure in instrument conditions ❑ Weather and NOTAM information	❑ Simulated lost communications procedures ❑ Partial panel approach at an unfamiliar airport ❑ Simulated electrical or GPS failure and reversion to available navigation	❑ IFR cross-country procedures ❑ Unusual attitude recovery ❑ Missed approach procedures ❑ Aeronautical decision making and judgment

COMPLETION STANDARDS:

- The student recognizes each simulated emergency, takes the correct action, and keeps control of the airplane and of the flight.
- The flight includes a landing more than 50 nm in a straight line from X04.

Flight Lesson 21 – Dual Long IFR Cross-Country

Preflight Brief	Dual	Instrument	Dual cross-country	Post Brief
1.2	4.0	3.6	4.0	0.3

OBJECTIVES:

- Complete the IFR cross-country required by 14 CFR 61.65(d)(2)(ii), with the student acting as pilot in command for planning and decision making.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	Review Elements continued
❑ IFR cross-country flight planning ❑ Weather information and alternates ❑ Fuel planning for a multi-leg flight ❑ Approach selection at each airport ❑ Performance and limitations ❑ Weather and NOTAM information	❑ IFR clearances and departure procedures ❑ Enroute procedures and holding ❑ Three different kinds of approaches: for example an ILS, an RNAV (GPS), and a localizer or VOR approach	❑ Missed approach procedures ❑ Simulated emergencies as assigned ❑ Single-pilot resource management

NOTE: The flight is conducted under IFR on a filed IFR flight plan, covers at least 250 nm along airways or ATC-directed routing, includes an instrument approach at each airport, and includes three different kinds of approaches using navigation systems. A sample route is X04 – Gainesville (KGNV) – Daytona Beach (KDAB) – Melbourne (KMLB) – X04, about 270 nm direct and more as routed; the student confirms the approaches currently published at each airport during planning.

COMPLETION STANDARDS:

- The student plans and flies the entire flight with no instructor input on normal procedures, complies with ATC clearances, and exercises sound judgment.
- Every requirement of 14 CFR 61.65(d)(2)(ii) is met and recorded in the logbook.

Flight Lesson 22 – Dual Local IFR – Review

Preflight Brief	Dual	Instrument	Post Brief
0.3	1.5	1.4	0.2

OBJECTIVES:

- Review emergency procedures and any tasks that need further work before practical test preparation.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	
❑ Areas identified in previous debriefs ❑ Performance and limitations ❑ Weather and NOTAM information	❑ Partial panel approach ❑ Recovery from unusual attitudes ❑ Holding and missed approaches ❑ Instructor-selected approaches	

COMPLETION STANDARDS:

- The student performs each task to the current Instrument Rating – Airplane ACS with no instructor input.

Flight Lesson 23 – Dual Local IFR – Practical Test Preparation

Preflight Brief	Dual	Instrument	Practical test prep	Post Brief
0.3	1.5	1.4	1.5	0.2

OBJECTIVES:

- Begin practical test preparation, flown within the 2 calendar months before the month of the test.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	
❑ Practical test procedures and the plan of action ❑ Oral topics: regulations, weather, airplane systems, and IFR planning ❑ Weather and NOTAM information	❑ Instrument cockpit check and ATC clearance ❑ Departure procedure ❑ Holding ❑ Non-precision approach and circling approach ❑ Recovery from unusual attitudes	

COMPLETION STANDARDS:

- The student performs each task to the current Instrument Rating – Airplane ACS with no instructor input.

Flight Lesson 24 – Dual Local IFR – Practical Test Preparation

Preflight Brief	Dual	Instrument	Practical test prep	Post Brief
0.3	1.5	1.4	1.5	0.2

OBJECTIVES:

- Continue practical test preparation, flown within the 2 calendar months before the month of the test.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	
❑ Remaining oral topics ❑ Acceptable performance criteria ❑ Weather and NOTAM information	❑ Precision or LPV approach ❑ Partial panel non-precision approach ❑ Missed approach procedures ❑ Landing from a straight-in approach ❑ Loss of communications	

COMPLETION STANDARDS:

- The student performs each task to the current Instrument Rating – Airplane ACS with no instructor input.

Flight Lesson 25 – Stage Check – End of Course

Preflight Brief	Dual	Instrument	Practical test prep	Post Brief
1.2	2.0	1.8	2.0	0.3

OBJECTIVES:

- This end-of-course check, conducted by the chief instructor, determines whether the student is prepared for the Instrument Rating – Airplane practical test.

LESSON ELEMENTS:

Preflight Discussion	Review Elements this Flight	Review Elements continued
❑ Pilot qualifications and airworthiness requirements ❑ Weather information ❑ Cross-country flight planning under IFR ❑ Airplane flight instruments and navigation equipment ❑ Human factors ❑ Applicable regulations ❑ Acceptable performance criteria	❑ Instrument cockpit check ❑ Compliance with ATC clearances and departure procedure ❑ Holding procedures ❑ Basic attitude instrument flight and recovery from unusual attitudes ❑ Intercepting and tracking navigation systems and arcs ❑ Non-precision approach ❑ Precision or LPV approach	❑ Missed approach ❑ Circling approach ❑ Landing from an instrument approach ❑ Loss of communications ❑ Approach with loss of primary flight instrument indicators ❑ Checklist usage and postflight procedures

COMPLETION STANDARDS:

- The student demonstrates proficiency that meets or exceeds the current FAA Instrument Rating – Airplane Airman Certification Standards.
- Mastery of the airplane is demonstrated, the successful outcome of each task never seriously in doubt. Additional instruction is assigned, if necessary, to meet the stage and course completion standards.
- The instructor confirms that all 14 CFR 61.65(d) experience, including the 50 hours of PIC cross-country time, is logged before issuing the practical test endorsements.