Syllabus & Lesson Plans

Stage-by-stage training syllabus aligned to FAA ACS for both helicopter and airplane categories. Each lesson lists objectives, completion standards, and references to FAR / AIM / FAA-H-8083 handbooks.

Helicopter (Rotorcraft)

Private Pilot — Helicopter (Part 61)

Approximate 40–60 flight hours plus ~30+ hours ground. Builds in three stages: pre-solo, solo & XC, checkride prep.

Stage I — Pre-Solo

1.01 — Course Overview & Cockpit Familiarization

Objective: Understand course structure, school SOP, syllabus, and locate every cockpit control.
Read: PHAK Ch 1; HFH Ch 1; RFM cockpit section.
Ground: School orientation; risk management; sterile cockpit; documents (ARROW, AAV1ATE).
Flight: Cockpit familiarization on the ramp; no flight.
Standard: Identify all controls, instruments, and emergency equipment from memory.

1.02 — Helicopter Aerodynamics — Hover & Translating Tendency

Objective: Explain hover aerodynamics: induced flow, translating tendency, ground effect, ETL.
Read: HFH Ch 2; PHAK Ch 4.
Ground: Lift, drag, weight, thrust; rotor system types; ground vs. translational lift.
Flight: Hover practice IGE — controls one at a time, then combined; ±5 ft, ±10° heading.
Standard: Stable 3–5 ft hover for 60 seconds within ±100 ft, heading ±10°.

1.03 — Hovering Maneuvers

Objective: Hover taxi, air taxi, surface taxi; pedal turns; hover sideward and rearward.
Read: HFH Ch 9.
Ground: Tail-rotor effectiveness; LTE awareness; clearing turns.
Flight: All hover modes; pedal turns over a spot; emphasize anticipation.
Standard: Maintain heading ±10°, altitude ±5 ft, drift within 10 ft of intended path.

1.04 — Normal Takeoff and Landing to a Hover

Objective: Vertical takeoff and landing to/from a hover; recognize translating tendency.
Read: HFH Ch 9.
Ground: Power management; collective and pedal coordination.
Flight: 5–8 takeoffs and landings; develop muscle memory.
Standard: Smooth lift-off, no drift over spot; touchdown ±5 ft of spot.

1.05 — Traffic Pattern Operations

Objective: Fly the traffic pattern at the home airport — entries, legs, communications.
Read: AIM 4-3; airport diagram; HFH Ch 9.
Ground: Pattern entry, communications, helicopter pattern altitude; light-gun signals.
Flight: 5–8 patterns; full-stop landings.
Standard: Pattern altitude ±100 ft; airspeed ±10 kt; coordinated calls.

1.06 — Maximum Performance Takeoff & Steep Approach

Objective: Execute max performance takeoff over an obstacle and steep approach.
Read: HFH Ch 9; RFM performance section.
Ground: Density altitude; power available vs. required; abort point planning.
Flight: 3 max perf TOs; 3 steep approaches.
Standard: Steep approach >13°; smooth power management; touchdown within 5 ft of spot.

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1.07 — Slope Operations

Objective: Land on and depart slope (left, right, nose-up).
Read: HFH Ch 9.
Ground: Dynamic-rollover prevention; cyclic and collective coordination.
Flight: 3 slope landings each direction; emphasize smoothness.
Standard: No abrupt control input; awareness of pivot point; safe touchdown.

1.08 — Confined Area & Pinnacle Operations

Objective: Plan and fly to/from a confined area and a pinnacle.
Read: HFH Ch 8.
Ground: 4 S's (Size, Shape, Surface, Surroundings); high & low recon; escape route.
Flight: 2 confined area, 2 pinnacle approaches/departures.
Standard: Recon sequence followed; clearance maintained from obstacles by ≥ rotor radius.

1.09 — Emergency Procedures — Engine Failure at Altitude

Objective: Recognize and respond to engine failure at altitude with autorotation.
Read: HFH Ch 11; RFM Section 3.
Ground: Driving/driven/stall regions; flare timing; emergency landing site selection.
Flight: Power recovery autos to a spot; emphasize entry and RPM management.
Standard: Vauto ±5 kt; RRPM in green; touchdown within 200 ft of spot.

1.10 — Emergency Procedures — Tail Rotor Failures

Objective: Recognize and respond to fixed-pitch and complete anti-torque failure scenarios.
Read: HFH Ch 11; RFM emergency procedures.
Ground: Mode identification; running landing; throttle chop on piston.
Flight: Simulated stuck pedal; running landing.
Standard: Recognize, communicate, execute correct procedure; safe touchdown.

1.11 — Settling with Power & LTE

Objective: Recognize VRS and LTE conditions; demonstrate recovery.
Read: HFH Ch 11; AC 90-95.
Ground: Three conditions for VRS; LTE wind regions; Vuichard recovery option.
Flight: Recognition and recovery demos at safe altitude.
Standard: Recognize symptoms; smooth recovery without secondary excursion.

1.12 — Pre-Solo Stage Check

Objective: Demonstrate pre-solo proficiency; pre-solo written test.
Read: §61.87; school pre-solo test bank.
Ground: Written test administered, graded, reviewed.
Flight: All maneuvers from this stage to standards.
Standard: ≥80% on written; CFI sign-off A.1, A.2; first solo flight.

Stage II — Solo & Cross-Country

2.01 — First Solo & Solo Pattern Work

Objective: Solo flight in the local pattern.
Read: §61.87(n); school SOP for solo.
Ground: Solo limitations; weather minimums; emergency plan.
Flight: 3 patterns solo; full-stop landings.
Standard: Safe operation; CFI continues 90-day endorsement (A.3).

2.02 — Cross-Country Planning Fundamentals

Objective: Build a VFR XC plan: pilotage, dead reckoning, weather, performance, fuel.
Read: PHAK Ch 16; AIM 5-1; sectional legend.
Ground: XC plan creation; flight log; weather brief; W&B.
Flight: Dual XC ≥50 NM; pilotage and DR.
Standard: Course ±5°; ETA within 5 min; arrives at planned destination.

2.03 — Dual Cross-Country with Diversion & Lost Procedures

Objective: Execute diversion and lost procedures during XC.
Read: AIM 6-2; PHAK Ch 16.
Ground: 5 C's; nearest airport function; ATC services.
Flight: Dual XC with diversion to alternate.
Standard: Diversion within 5 NM of estimate; demonstrates lost procedure.

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2.04 — Night Operations & Night Cross-Country

Objective: Fly a night XC ≥50 NM with ≥10 T/Ls full-stop in the pattern.
Read: PHAK Ch 17; HFH Ch 16; aeromedical.
Ground: Night vision physiology; airport lighting; aircraft lighting; risk.
Flight: 3 hours night dual including XC and 10 T/L.
Standard: Pattern altitude ±100 ft; spatial awareness intact.

2.05 — Solo Cross-Country (short)

Objective: Solo XC dual-endorsed flight.
Read: §61.93; weather brief; W&B.
Ground: CFI reviews plan and endorses A.5.
Flight: Solo XC ≥25 NM; landing at alternate.
Standard: Successful planned arrival; no deviations.

2.06 — Solo Long Cross-Country

Objective: Solo XC ≥75 NM total with one leg >25 NM, full-stop at 3 points.
Read: §61.109(c)(3)(iii).
Ground: Risk briefing; communications plan.
Flight: Solo long XC.
Standard: Successful trip; logbook + endorsements.

Stage III — Checkride Prep

3.01 — ACS Maneuver Refinement

Objective: Drill all ACS maneuvers to checkride tolerances.
Read: FAA-S-ACS-29 (Private Rotorcraft ACS).
Ground: Each task K/R/S elements reviewed.
Flight: All maneuvers; emphasize weak areas.
Standard: All tolerances met.

3.02 — Mock Oral

Objective: Simulate examiner oral with FAR/AIM, charts, RFM.
Read: PHAK; AIM; FAR/AIM.
Ground: 4-hour oral covering all ACS knowledge areas.
Flight: None.
Standard: Identifies sources; correct answers; uses materials.

3.03 — Mock Practical

Objective: Examiner-style flight simulating the checkride.
Read: ACS task list.
Ground: Pre-flight briefing as on checkride day.
Flight: All assigned maneuvers.
Standard: All ACS tolerances met; CFI signs A.32, A.33, A.35 for practical.

3.04 — IACRA, 8710, Document Review

Objective: Verify application, hours, endorsements.
Read: §61.39 prerequisites; AC 61-65.
Ground: Print 8710 from IACRA; verify by category/class.
Flight: None.
Standard: All paperwork accurate; ready for DPE.

Commercial Pilot — Helicopter (Part 61)

Builds on Private with tighter tolerances, advanced maneuvers, and commercial-operations knowledge.

Stage I — Commercial Maneuvers

1.01 — Tighter Hover & Pattern Standards

Objective: Refine hover and pattern to Commercial tolerances (heading ±5°, ±50 ft of spot).
Read: FAA-S-ACS-16; HFH Ch 9.
Ground: Difference in tolerances; precision flying.
Flight: Hover, pattern, normal & crosswind T/L.
Standard: All Commercial tolerances met.

1.02 — 180° Autorotation to a Designated Spot

Objective: Execute 180° autorotation to a designated touchdown spot.
Read: HFH Ch 11; ACS Area VIII.
Ground: Entry, energy management, turn radius, flare timing.
Flight: 5+ practice 180° autorotations.
Standard: Touchdown within published tolerance of designated spot, heading aligned.

1.03 — Steep Approach (>13°) and Shallow Approach Running Landing

Objective: Demonstrate steep and shallow approaches to ACS standards.
Read: HFH Ch 9.
Ground: When each is used; energy and obstacles.
Flight: 3 steep, 3 shallow run-on landings.
Standard: Touchdown ±5 ft on steep; smooth running landing.

1.04 — Rapid Deceleration to a Spot

Objective: Execute a quick stop to a precise spot.
Read: HFH Ch 9.
Ground: Tail-strike avoidance; coordinated pedal.
Flight: 5+ quick stops.
Standard: Spot ±5 ft; no tail strike; positive control.

Stage II — Commercial Operations Knowledge

2.01 — Part 119/133/135/137 Overview

Objective: Distinguish for-hire operating rules and applicability.
Read: §119, §133, §135, §137; AC 119.
Ground: Common carriage; private vs commercial; certificates.
Flight: None.
Standard: Identify applicable rule for a given scenario.

2.02 — External Load Operations (Class A/B/C/D)

Objective: Differentiate external load classes; basic load planning.
Read: §133.
Ground: Class definitions; RLC manual; HEC requirements.
Flight: Demo or familiarization if equipped.
Standard: Correctly identify class for a scenario.

2.03 — Robinson SFAR 73 / Aircraft-Specific

Objective: Comply with SFAR 73 if R22/R44; awareness of LTE / mast-bumping risks.
Read: SFAR 73; RFM.
Ground: Currency requirements; recurrent every 12 cal mo.
Flight: As required by SFAR 73 type training.
Standard: Currency met; safety briefed.

Stage III — Long Cross-Country & Night

3.01 — Commercial Long Cross-Country

Objective: Plan and fly the long XC: 100 NM, 3 points, 50 NM leg.
Read: §61.129(c)(4)(i).
Ground: XC plan; alternate; weather/risk.
Flight: Long XC.
Standard: Successful trip; full documentation.

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3.02 — Night Cross-Country & Towered T/L

Objective: 5 hours night with 10 T/L at a towered airport.
Read: §61.129(c)(2)(ii).
Ground: Night risks; tower comms.
Flight: Night XC + T/L drills.
Standard: All takeoffs/landings safely; pattern altitude ±100 ft.

Stage IV — Commercial Checkride Prep

4.01 — Mock Oral & Practical

Objective: Simulate Commercial oral and flight to ACS.
Read: FAA-S-ACS-16.
Ground: 4-hour oral; aircraft systems deep dive.
Flight: All Commercial maneuvers.
Standard: Pass mock; sign A.38, A.39; 8710 in IACRA.

Instrument Rating — Helicopter (Part 61)

40 hours instrument time (15 in helicopter), plus 50 hours XC PIC. Three stages: BAI, navigation/holds, approaches.

Stage I — Basic Attitude Instrument Flying (BAI)

1.01 — Instrument Scan & Cross-Check

Objective: Develop primary/supporting scan; recognize fixation.
Read: IFH Ch 5.
Ground: Scan techniques: selected radial, inverted-V, rectangular.
Flight: Straight-and-level, climbs, descents under hood.
Standard: Altitude ±100 ft; heading ±10°; airspeed ±10 kt.

1.02 — Standard Rate Turns & Climbing/Descending Turns

Objective: Execute SRT, intercept headings, manage power.
Read: IFH Ch 5.
Ground: Bank/airspeed for SRT; helicopter trim characteristics.
Flight: Pattern A/B; turns with altitude changes.
Standard: SRT ±5°; altitudes ±100 ft.

1.03 — Recovery from Unusual Attitudes

Objective: Recover from nose-high and nose-low under hood.
Read: IFH Ch 7.
Ground: Spatial disorientation; recovery sequence.
Flight: Multiple unusual attitudes.
Standard: Smooth recovery, attitude indicator level, coordinated.

Stage II — Navigation, Holds, ATC

2.01 — VOR, GPS, & RNAV Tracking

Objective: Tune, identify, track to/from VOR; manage GPS legs.
Read: AIM 1-1; IFH Ch 9.
Ground: Course intercepts; CDI sensitivity; RAIM/WAAS.
Flight: VOR / GPS tracking exercises.
Standard: Course ±5°; intercepts within 5 NM.

2.02 — Holding Patterns

Objective: Plan and fly direct/parallel/teardrop entries.
Read: AIM 5-3-7/8.
Ground: Sector identification; timing.
Flight: Holds at a fix from multiple directions.
Standard: Inbound leg 1 min ±10 sec; entry correctly identified.

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2.03 — Departure Procedures & ATC Clearances

Objective: Read back & fly DPs; comply with clearances.
Read: AIM 5-2.
Ground: DP categories; pilot-nav vs vector.
Flight: DP from home airport.
Standard: All restrictions met; readback correct.

Stage III — Approaches

3.01 — Non-Precision Approach (VOR/LOC/NDB as available)

Objective: Brief and fly NPA to MDA; missed approach.
Read: AIM 5-4; approach plates.
Ground: 5 Ts; MDA vs DA; visual reference rules.
Flight: 3+ NPAs.
Standard: Altitudes ±100 ft, course CDI within tolerance.

3.02 — ILS / Precision Approach

Objective: Brief and fly ILS to DA; manage glide slope.
Read: AIM 5-4-5.
Ground: GS sensitivity; missed at DA.
Flight: 3+ ILS.
Standard: Localizer ±¾ scale; GS ±¾ scale; missed if visual not in sight at DA.

3.03 — RNAV (GPS) — LNAV / LP / LPV

Objective: Brief and fly RNAV with vertical guidance.
Read: AIM 1-1-19.
Ground: WAAS; LPV minimums.
Flight: RNAV approaches with multiple minimums.
Standard: Vertical track within ±¾ scale; missed correctly.

3.04 — Copter / PinS Approach

Objective: Fly Copter approach with 'Proceed VFR' or 'Proceed Visually' transition.
Read: AIM 5-4-5.
Ground: PinS philosophy; visual segment management.
Flight: PinS approach.
Standard: Approach speed ≤90 KIAS; correct missed if visual not flyable.

Stage IV — Long IFR XC and Checkride

4.01 — Long IFR XC ≥100 NM with 3 different approach types

Objective: File and fly long IFR XC with three approach types.
Read: §61.65(g)(2)(ii).
Ground: Plan; weather; alternate.
Flight: Filed IFR XC.
Standard: Trip completed; logbook documents all approaches.

4.02 — Mock Oral & Practical

Objective: Simulate IRH oral and practical.
Read: FAA-S-ACS-14.
Ground: 3-4 hour oral focused on IFR.
Flight: All IFR ACS tasks.
Standard: Pass mock; A.36, A.37 endorsements.

Fundamentals of Instructing (FOI Knowledge Test)

~12–20 hours of self-study built around FAA-H-8083-9. Outcome: pass the FOI written.

Module 1 — Human Factors & Communication

M1.01 — Maslow's Hierarchy & Human Behavior

Objective: Apply Maslow's hierarchy and recognize defense mechanisms.
Read: AIH Ch 1.
Ground: 5 levels; 9 defense mechanisms; relating to students.
Flight: None.
Standard: Identify 5 levels and 5 defense mechanisms; apply to a teaching scenario.

M1.02 — Communication Process & Barriers

Objective: Identify source/symbols/receiver and barriers.
Read: AIH Ch 1.
Ground: Confusion of symbol and reality; abstraction; interference.
Flight: None.
Standard: Apply correct symbols to teaching scenarios.

Module 2 — Learning

M2.01 — Domains, Levels, Laws of Learning

Objective: Recognize cognitive/affective/psychomotor; apply REEPIR.
Read: AIH Ch 2.
Ground: Cognitive levels: rote→correlation; psychomotor stages.
Flight: None.
Standard: Apply each law to a maneuver-teaching scenario.

M2.02 — Memory & Forgetting

Objective: Apply theories of forgetting and counter-strategies.
Read: AIH Ch 2.
Ground: Sensory→working→long-term; disuse, interference, repression, retrieval failure.
Flight: None.
Standard: Suggest 3 anti-forgetting techniques.

Module 3 — Teaching Process & Methods

M3.01 — Lesson Planning & Demonstration-Performance

Objective: Build a lesson plan; apply 5 phases of demo-perf.
Read: AIH Ch 4-5.
Ground: Objective→content→evaluation; integrated method.
Flight: None.
Standard: Produce a complete lesson plan for a hover lesson.

M3.02 — Assessment & Critique

Objective: Use traditional and authentic assessment; effective oral questioning.
Read: AIH Ch 6.
Ground: Brief, single-idea, no clues, presents challenge.
Flight: None.
Standard: Write 5 effective oral questions.

Module 4 — Risk Management & Professionalism

M4.01 — SRM, ADM, Hazardous Attitudes

Objective: Apply DECIDE, 3P, PAVE, 5 Ps; identify and counter hazardous attitudes.
Read: AIH Ch 7.
Ground: Models, antidotes, single-pilot resource management.
Flight: None.
Standard: Apply DECIDE to a scenario; identify hazardous attitudes.

M4.02 — Instructor Responsibilities & Professionalism

Objective: Standards: helping, instruction, demanding standards, positive emphasis, safety.
Read: AIH Ch 8.
Ground: Endorsement responsibility; legal liability; ethics.
Flight: None.
Standard: List 5 instructor responsibilities.

Module 5 — Test Prep

M5.01 — FOI Knowledge Test Prep

Objective: Pass FAA FOI Knowledge Test (≥70%).
Read: FAA test prep; AIH.
Ground: Drill 200+ FOI questions; review weak areas.
Flight: None.
Standard: Score ≥80% consistent on practice exams; sign-off A.40.

CFI — Helicopter (Initial)

After Commercial + IRH, ~30–60 hours teaching practice. Build lesson library, learn left-seat flying, drill teaching of common errors.

Stage I — Lesson Library & Teaching Method

1.01 — Build Master Lesson Plans (TSA + Maneuvers)

Objective: Author lesson plans for every CFI ACS task.
Read: FAA-S-ACS or PTS for CFI; AIH.
Ground: Lesson plan template; objectives; common errors.
Flight: None.
Standard: Complete lesson plan binder for every task.

1.02 — Endorsement Mastery (AC 61-65)

Objective: Memorize endorsement language and FAR cite for each.
Read: AC 61-65 (current revision).
Ground: Pre-solo, solo XC, knowledge test, practical, IPC, FR.
Flight: None.
Standard: Write any endorsement on demand from memory of the index.

Stage II — Teaching Maneuvers from the Left Seat

2.01 — Hover & Pattern Teaching

Objective: Demonstrate and teach hover and pattern from the left seat.
Read: HFH Ch 9; CFI ACS.
Ground: Common errors and corrections.
Flight: Practice teaching from left seat with another CFI as student.
Standard: Smooth demos; corrects student errors verbally and physically.

2.02 — Confined / Pinnacle / Slope Teaching

Objective: Teach high recon, low recon, escape route, slope landing safety.
Read: HFH Ch 8.
Ground: 4 S's; pivot point.
Flight: Teach maneuvers; identify and call out common errors.
Standard: Maneuvers explained and demonstrated to PTS standards.

2.03 — Emergency Procedures Teaching (Auto / SWP / LTE)

Objective: Teach emergency procedures with risk management emphasis.
Read: HFH Ch 11.
Ground: Demos performed safely; recovery margins; SOP compliance.
Flight: Practice teaching power-on/off auto, SWP recognition.
Standard: All demos within RFM/SOP; clear teaching commentary.

Stage III — FOI & Knowledge Tests

3.01 — FOI & FIH Test Prep

Objective: Pass FOI and FIH knowledge tests.
Read: AIH; CFI test prep.
Ground: Drill banks; weak-area review.
Flight: None.
Standard: ≥80% consistent; A.40 + A.41 endorsements.

Stage IV — Mock Initial CFI Practical

4.01 — Long-Form Oral (4–6 hours)

Objective: Defend any lesson plan; teach a maneuver on demand.
Read: PTS / ACS for CFI.
Ground: Full oral with another senior CFI.
Flight: None.
Standard: Pass mock; A.42 endorsement.

4.02 — Flight Portion

Objective: Teach maneuvers from left seat; identify common errors.
Read: CFI ACS.
Ground: Pre-flight brief.
Flight: All required maneuvers.
Standard: Pass mock; ready for FSDO/DPE.

CFII — Helicopter Instrument Instructor (Add-On)

After CFI + IRH. Build instrument lesson library, drill teaching of scan and approaches.

Stage I — Instrument Lesson Library

1.01 — Build Lesson Plans for Every IRH ACS Task

Objective: Lesson plan binder for IRH instruction.
Read: IFH; CFII PTS / ACS.
Ground: Scan, holds, approaches, missed, partial panel.
Flight: None.
Standard: Complete binder; ready for oral.

Stage II — Teaching Instrument Skills

2.01 — Teach Scan & Basic Attitude Instrument Flying

Objective: Demonstrate and teach scan techniques.
Read: IFH Ch 5.
Ground: Common scan errors and corrections.
Flight: Right seat as PIC, left seat as instructor — teach scan.
Standard: Student replicates technique; smooth control.

2.02 — Teach Holds and Approaches

Objective: Teach hold entries and all approach types to standards.
Read: AIM 5-3, 5-4.
Ground: 5 Ts; PinS specifics.
Flight: Teach hold and approaches.
Standard: All maneuvers to ACS standards.

2.03 — Teach Partial-Panel & System Failures

Objective: Teach partial-panel and AHRS failures with composure.
Read: IFH Ch 7.
Ground: Failure modes; standby instruments.
Flight: Simulated AHRS/ADC failure scenarios.
Standard: Student maintains control; flies missed if unable to continue.

Stage III — FII Test & Mock Practical

3.01 — FII Knowledge Test Prep

Objective: Pass FII knowledge test (≥70%).
Read: AIM; IFH; current ACS.
Ground: Drill instrument-specific questions.
Flight: None.
Standard: Pass; sign-off.

3.02 — Mock Practical

Objective: Simulate CFII practical: oral + flight.
Read: PTS / ACS for CFII.
Ground: 3+ hour oral.
Flight: All CFII maneuvers and teaching.
Standard: Pass mock; ready for DPE.

Airplane (ASEL)

Private Pilot — Airplane (ASEL, Part 61)

Approximately 50–70 flight hours plus ~30+ hours ground. Three stages: pre-solo, solo & cross-country, checkride prep.

Stage I — Pre-Solo

1.01 — Course Overview & Cockpit Familiarization

Objective: Understand course structure, school SOP, syllabus; locate every cockpit control.
Read: PHAK Ch 1; AFH Ch 1; POH cockpit section.
Ground: Orientation; sterile cockpit; documents (ARROW, AAV1ATE).
Flight: Cockpit familiarization on the ramp.
Standard: Identify all controls, instruments, and emergency equipment from memory.

1.02 — Aerodynamics — Four Forces, Stalls, Spins (awareness)

Objective: Explain the four forces; stalls; spin awareness; left-turning tendencies.
Read: PHAK Ch 5; AFH Ch 4-5.
Ground: Lift, drag, weight, thrust; AOA; load factor; PARE.
Flight: Straight-and-level, gentle turns, slow flight intro.
Standard: Demonstrate coordinated turns ±10° heading; recognize a stall warning.

1.03 — Taxi, Takeoff, Climb, Pattern Operations

Objective: Taxi safely; execute normal takeoff; climb; fly the pattern.
Read: AIM 4-3; AFH Ch 2; airport diagram.
Ground: Pattern entries, communications; surface-movement awareness.
Flight: 5–8 normal takeoffs and landings.
Standard: Pattern altitude ±100 ft; airspeed ±10 kt; coordinated calls.

1.04 — Slow Flight & Stalls

Objective: Recognize approaching stall; recover with minimum altitude loss.
Read: AFH Ch 4; ACS VII.
Ground: AOA, critical AOA; cross-controlled stall awareness.
Flight: Slow flight, power-off and power-on stalls.
Standard: Recover at first indication; minimum altitude loss; coordinated.

1.05 — Crosswind Takeoff & Landing

Objective: Execute crosswind T/O and landing with the side-slip technique.
Read: AFH Ch 8.
Ground: Aileron into wind; rudder for centerline; gust factor.
Flight: 5+ crosswind takeoffs and landings.
Standard: Track centerline; touchdown without drift.

1.06 — Soft-Field & Short-Field T/O & Landing

Objective: Soft-field and short-field T/O & landing techniques.
Read: AFH Ch 5/8; POH performance.
Ground: Energy management; runway environment.
Flight: 3 soft-field, 3 short-field T/L.
Standard: Maintain runway centerline; touchdown within ACS tolerance; appropriate technique.

1.07 — Steep Turns

Objective: Steep turns 45° bank; coordination & altitude management.
Read: AFH Ch 9.
Ground: Load factor; over-bank tendency.
Flight: 3+ steep turns each direction.
Standard: ±100 ft altitude, ±10 kt, ±10° rollout heading; bank ±5°.

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1.08 — Ground Reference Maneuvers

Objective: Turns around a point, S-turns, rectangular course.
Read: AFH Ch 6.
Ground: Wind correction; constant radius.
Flight: All three maneuvers.
Standard: Constant radius despite wind; altitude ±100 ft.

1.09 — Emergency Procedures — Engine Failure

Objective: Recognize engine failure; establish best glide; emergency landing.
Read: AFH Ch 17; POH Section 3.
Ground: Best glide speed; field selection; restart flow.
Flight: Simulated engine failure at altitude; field selection drill.
Standard: Best glide ±10 kt; field selected within glide range; flow followed.

1.10 — Pre-Solo Stage Check

Objective: Demonstrate pre-solo proficiency; pre-solo written test.
Read: §61.87; school pre-solo test.
Ground: Written test administered, graded, reviewed.
Flight: All maneuvers from this stage to standards.
Standard: ≥80% on written; CFI sign-off A.1, A.2; first solo flight.

Stage II — Solo & Cross-Country

2.01 — First Solo & Solo Pattern Work

Objective: Solo flight in the local pattern.
Read: §61.87(n); school SOP for solo.
Ground: Solo limitations; weather minimums; emergency plan.
Flight: 3 patterns solo, full-stop.
Standard: Safe operation; A.3 maintained.

2.02 — VFR Cross-Country Planning

Objective: Build a VFR XC plan: pilotage, dead reckoning, weather, performance, fuel.
Read: PHAK Ch 16; AIM 5-1; sectional legend.
Ground: Plan; flight log; weather brief; W&B.
Flight: Dual XC ≥50 NM.
Standard: Course ±5°; ETA within 5 min.

2.03 — XC with Diversion & Lost Procedures

Objective: Execute diversion and lost procedures.
Read: AIM 6-2; PHAK Ch 16.
Ground: 5 Cs; nearest airport; ATC services.
Flight: Dual XC with diversion to alternate.
Standard: Diversion within 5 NM of estimate.

2.04 — Night Operations & Night Cross-Country

Objective: Night XC ≥100 NM total with 10 T/Ls full-stop in pattern.
Read: PHAK Ch 17; AFH Ch 11; aeromedical.
Ground: Night vision; airport lighting; aircraft lighting; risk.
Flight: 3 hours night dual including XC.
Standard: Pattern altitude ±100 ft; spatial awareness.

2.05 — Solo Cross-Country (short)

Objective: Solo XC dual-endorsed flight.
Read: §61.93; weather brief.
Ground: CFI reviews plan and endorses A.5.
Flight: Solo XC ≥50 NM.
Standard: Successful planned arrival.

2.06 — Solo Long Cross-Country

Objective: Solo XC ≥150 NM total with one leg >50 NM straight-line, full-stop at three points.
Read: §61.109(a)(5)(ii).
Ground: Risk briefing; communications plan.
Flight: Solo long XC.
Standard: Successful trip; logbook + endorsement.

Stage III — Checkride Prep

3.01 — ACS Maneuver Refinement

Objective: Drill all ACS maneuvers to checkride tolerances.
Read: FAA-S-ACS-6 (Private Airplane ACS).
Ground: Each task K/R/S elements reviewed.
Flight: All maneuvers; emphasize weak areas.
Standard: All tolerances met.

3.02 — Mock Oral

Objective: Simulate examiner oral with FAR/AIM, charts, POH.
Read: PHAK; AIM; FAR/AIM.
Ground: ~3-hour oral covering all knowledge areas.
Flight: None.
Standard: Identifies sources; correct answers; uses materials.

3.03 — Mock Practical

Objective: Examiner-style flight simulating the checkride.
Read: ACS task list.
Ground: Pre-flight briefing as on checkride day.
Flight: All assigned maneuvers.
Standard: All ACS tolerances met; CFI signs A.32, A.33, A.35.

3.04 — IACRA, 8710, Document Review

Objective: Verify application, hours, endorsements.
Read: §61.39; AC 61-65.
Ground: Print 8710 from IACRA; verify by category/class.
Flight: None.
Standard: All paperwork accurate; ready for DPE.

Commercial Pilot — Airplane (ASEL, Part 61)

Builds on Private with tighter tolerances, advanced maneuvers (chandelles, lazy 8s, eights on pylons, power-off 180°), and complex/HP/tailwheel awareness.

Stage I — Commercial Maneuvers

1.01 — Tighter Pattern, Steep Turns at 50°

Objective: Commercial tolerances on pattern + steep turns at 50° bank.
Read: FAA-S-ACS-7; AFH.
Ground: Tolerances; over-bank prevention.
Flight: Steep turns; pattern.
Standard: All Commercial tolerances met.

1.02 — Chandelle

Objective: Maximum-performance climbing 180° turn.
Read: AFH Ch 9.
Ground: Pitch/bank coordination; peaks at 90° and 180°.
Flight: 5+ chandelles each direction.
Standard: Smooth, coordinated, on-heading recovery.

1.03 — Lazy 8

Objective: Symmetrical, coordinated 180° course reversal.
Read: AFH Ch 9.
Ground: Symmetry; coordination; airspeed control.
Flight: 5+ lazy 8s.
Standard: Symmetrical execution; rollout on 180°.

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1.04 — Eights on Pylons

Objective: Maintain pivotal altitude.
Read: AFH Ch 6.
Ground: Pivotal altitude formula; wind correction.
Flight: Eights on pylons over selected ground references.
Standard: Hold pylon on a ground line consistently.

1.05 — Power-Off 180° Accuracy Approach & Landing

Objective: Touchdown within 200 ft beyond a designated point.
Read: AFH; ACS IV.
Ground: Energy management; pattern judgment.
Flight: 5+ power-off 180s.
Standard: Touchdown within 200 ft of point.

Stage II — Endorsements & Knowledge

2.01 — Complex / HP / Tailwheel Endorsements

Objective: Complete §61.31(e)/(f)/(i) training and endorsements as applicable.
Read: §61.31; POH; AFH Ch 11/13.
Ground: Systems; constant-speed prop; gear; tailwheel ground handling.
Flight: As required.
Standard: Endorsements signed.

2.02 — High-Altitude / Oxygen / Pressurization

Objective: §91.211 oxygen rules; pressurization basics.
Read: §91.211; AFH high-altitude chapter.
Ground: Hypoxia signs; emergency descent; oxygen requirements.
Flight: Familiarization if pressurized aircraft available.
Standard: Knowledge demonstrated.

Stage III — Long XC & Night

3.01 — Commercial Long Cross-Country

Objective: Plan and fly the 300 NM long XC, three points, leg ≥250 NM straight-line.
Read: §61.129(a)(4).
Ground: XC plan; alternate; weather/risk.
Flight: Long XC.
Standard: Successful trip; full documentation.

3.02 — Night Cross-Country & Towered T/L

Objective: 5 hours night with 10 T/L at a towered airport.
Read: §61.129(a)(2)(ii).
Ground: Night risks; tower comms.
Flight: Night XC + T/L drills.
Standard: All takeoffs/landings safely; pattern altitude ±100 ft.

Stage IV — Checkride Prep

4.01 — Mock Oral & Practical

Objective: Simulate Commercial oral and flight to ACS.
Read: FAA-S-ACS-7.
Ground: 3-4 hour oral; aircraft systems deep dive.
Flight: All Commercial maneuvers.
Standard: Pass mock; sign A.38, A.39.

Instrument Rating — Airplane (Part 61)

40 hours instrument time (15 in airplane), 50 hours XC PIC. Three stages: BAI, navigation/holds, approaches.

Stage I — Basic Attitude Instrument Flying

1.01 — Instrument Scan & Cross-Check

Objective: Develop primary/supporting scan; recognize fixation.
Read: IFH Ch 5.
Ground: Scan techniques: selected radial, inverted-V, rectangular.
Flight: Straight-and-level, climbs, descents under hood.
Standard: Altitude ±100 ft; heading ±10°; airspeed ±10 kt.

1.02 — Standard Rate Turns; Climbs/Descents in Turns

Objective: Execute SRT, intercept headings, manage power.
Read: IFH Ch 5.
Ground: Bank/airspeed for SRT.
Flight: Pattern A/B; turns with altitude changes.
Standard: SRT ±5°; altitudes ±100 ft.

1.03 — Recovery from Unusual Attitudes

Objective: Recover from nose-high and nose-low under hood.
Read: IFH Ch 7.
Ground: Spatial disorientation; recovery sequence.
Flight: Multiple unusual attitudes.
Standard: Smooth recovery, AI level, coordinated.

Stage II — Navigation, Holds, ATC

2.01 — VOR, GPS, & RNAV Tracking

Objective: Tune, identify, track to/from VOR; manage GPS legs.
Read: AIM 1-1; IFH Ch 9.
Ground: Course intercepts; CDI sensitivity; RAIM/WAAS.
Flight: VOR / GPS tracking exercises.
Standard: Course ±5°; intercepts within 5 NM.

2.02 — Holding Patterns

Objective: Plan and fly direct/parallel/teardrop entries.
Read: AIM 5-3-7/8.
Ground: Sector identification; timing.
Flight: Holds at a fix from multiple directions.
Standard: Inbound leg 1 min ±10 sec; entry correctly identified.

2.03 — Departure Procedures & ATC Clearances

Objective: Read back & fly DPs; comply with clearances.
Read: AIM 5-2.
Ground: DP categories; pilot-nav vs vector.
Flight: DP from home airport.
Standard: All restrictions met; readback correct.

Stage III — Approaches

3.01 — Non-Precision Approach (VOR/LOC/NDB as available)

Objective: Brief and fly NPA to MDA; missed approach.
Read: AIM 5-4; approach plates.
Ground: 5 Ts; MDA vs DA; visual reference rules.
Flight: 3+ NPAs.
Standard: Altitudes ±100 ft, course CDI within tolerance.

3.02 — ILS / Precision Approach

Objective: Brief and fly ILS to DA; manage glide slope.
Read: AIM 5-4-5.
Ground: GS sensitivity; missed at DA.
Flight: 3+ ILS.
Standard: Localizer ±¾; GS ±¾; missed if visual not in sight at DA.

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3.03 — RNAV (GPS) — LNAV / LP / LPV

Objective: Brief and fly RNAV with vertical guidance.
Read: AIM 1-1-19.
Ground: WAAS; LPV minimums.
Flight: RNAV approaches with multiple minimums.
Standard: Vertical track within ±¾ scale.

3.04 — Circling & Missed

Objective: Fly circling and missed approach.
Read: AIM 5-4-21.
Ground: Circle-to-land minimums.
Flight: Circle; missed.
Standard: Maintain MDA until in normal position to land.

Stage IV — Long IFR XC and Checkride

4.01 — Long IFR XC ≥250 NM with 3 different approach types

Objective: File and fly long IFR XC.
Read: §61.65(d)(2)(ii)(C).
Ground: Plan; weather; alternate.
Flight: Filed IFR XC.
Standard: Trip completed; logbook documents.

4.02 — Mock Oral & Practical

Objective: Simulate IRA oral and practical.
Read: FAA-S-ACS-14.
Ground: 3-4 hour oral focused on IFR.
Flight: All IFR ACS tasks.
Standard: Pass mock; A.36, A.37 endorsements.

Fundamentals of Instructing (FOI Knowledge Test)

~12–20 hours of self-study built around FAA-H-8083-9. Outcome: pass the FOI written.

Module 1 — Human Factors & Communication

M1.01 — Maslow's Hierarchy & Human Behavior

Objective: Apply Maslow's hierarchy and recognize defense mechanisms.
Read: AIH Ch 1.
Ground: 5 levels; 9 defense mechanisms; relating to students.
Flight: None.
Standard: Identify 5 levels and 5 defense mechanisms; apply to a teaching scenario.

M1.02 — Communication Process & Barriers

Objective: Identify source/symbols/receiver and barriers.
Read: AIH Ch 1.
Ground: Confusion of symbol and reality; abstraction; interference.
Flight: None.
Standard: Apply correct symbols to teaching scenarios.

Module 2 — Learning

M2.01 — Domains, Levels, Laws of Learning

Objective: Recognize cognitive/affective/psychomotor; apply REEPIR.
Read: AIH Ch 2.
Ground: Cognitive levels: rote→correlation; psychomotor stages.
Flight: None.
Standard: Apply each law to a maneuver-teaching scenario.

M2.02 — Memory & Forgetting

Objective: Apply theories of forgetting and counter-strategies.
Read: AIH Ch 2.
Ground: Sensory→working→long-term; disuse, interference, repression, retrieval failure.
Flight: None.
Standard: Suggest 3 anti-forgetting techniques.

Module 3 — Teaching Process & Methods

M3.01 — Lesson Planning & Demonstration-Performance

Objective: Build a lesson plan; apply 5 phases of demo-perf.
Read: AIH Ch 4-5.
Ground: Objective→content→evaluation; integrated method.
Flight: None.
Standard: Produce a complete lesson plan for a hover lesson.

M3.02 — Assessment & Critique

Objective: Use traditional and authentic assessment; effective oral questioning.
Read: AIH Ch 6.
Ground: Brief, single-idea, no clues, presents challenge.
Flight: None.
Standard: Write 5 effective oral questions.

Module 4 — Risk Management & Professionalism

M4.01 — SRM, ADM, Hazardous Attitudes

Objective: Apply DECIDE, 3P, PAVE, 5 Ps; identify and counter hazardous attitudes.
Read: AIH Ch 7.
Ground: Models, antidotes, single-pilot resource management.
Flight: None.
Standard: Apply DECIDE to a scenario; identify hazardous attitudes.

M4.02 — Instructor Responsibilities & Professionalism

Objective: Standards: helping, instruction, demanding standards, positive emphasis, safety.
Read: AIH Ch 8.
Ground: Endorsement responsibility; legal liability; ethics.
Flight: None.
Standard: List 5 instructor responsibilities.

Module 5 — Test Prep

M5.01 — FOI Knowledge Test Prep

Objective: Pass FAA FOI Knowledge Test (≥70%).
Read: FAA test prep; AIH.
Ground: Drill 200+ FOI questions; review weak areas.
Flight: None.
Standard: Score ≥80% consistent on practice exams; sign-off A.40.

CFI — Airplane (Initial)

After Commercial + IRA, ~30–60 hours teaching practice. Build lesson library, learn right-seat flying, drill teaching of common errors. Spin training endorsement is required for airplane CFI applicants.

Stage I — Lesson Library & Teaching Method

1.01 — Build Master Lesson Plans (TSA + Maneuvers)

Objective: Author lesson plans for every CFI ACS task.
Read: FAA-S-ACS-25; AIH.
Ground: Lesson plan template; objectives; common errors.
Flight: None.
Standard: Complete lesson plan binder.

1.02 — Endorsement Mastery (AC 61-65)

Objective: Memorize endorsement language and FAR cite for each.
Read: AC 61-65 (current revision).
Ground: Pre-solo, solo XC, knowledge test, practical, IPC, FR; endorsements §61.31(e)/(f)/(i)/(g).
Flight: None.
Standard: Write any endorsement on demand.

Stage II — Teaching Maneuvers from the Right Seat

2.01 — Pattern, Slow Flight, Stalls, Spins (awareness)

Objective: Teach pattern, slow flight, stalls, spin awareness/recovery.
Read: AFH Ch 4; AC 61-67.
Ground: Common errors; spin entry/recovery; PARE.
Flight: Practice teaching from right seat.
Standard: Smooth demos; corrects student errors.

2.02 — Steep Turns, Chandelles, Lazy 8s, Eights on Pylons

Objective: Teach all Commercial maneuvers from the right seat.
Read: AFH Ch 9.
Ground: Common errors and corrections.
Flight: Practice teaching.
Standard: Maneuvers explained and demonstrated to PTS standards.

2.03 — Crosswind, Soft-Field, Short-Field Teaching

Objective: Teach takeoff/landing variants.
Read: AFH Ch 5/8.
Ground: Common errors.
Flight: Right-seat practice.
Standard: Smooth, coordinated demonstrations.

2.04 — Spin Training Endorsement (§61.183(i))

Objective: Receive spin training and endorsement.
Read: AC 61-67; AFH Ch 5.
Ground: Spin entry, recovery, hazard awareness.
Flight: Spin entries and recoveries (in spin-approved aircraft with spin-qualified instructor).
Standard: Demonstrate spin awareness; receive endorsement.

Stage III — FOI & Knowledge Tests

3.01 — FOI & FIA Test Prep

Objective: Pass FOI and FIA knowledge tests.
Read: AIH; CFI test prep.
Ground: Drill banks; weak-area review.
Flight: None.
Standard: ≥80% consistent; A.40 + A.41 endorsements.

Stage IV — Mock Initial CFI Practical

4.01 — Long-Form Oral (4–6 hours)

Objective: Defend any lesson plan; teach a maneuver on demand.
Read: FAA-S-ACS-25.
Ground: Full oral with another senior CFI.
Flight: None.
Standard: Pass mock; A.42 endorsement.

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4.02 — Flight Portion

Objective: Teach maneuvers from right seat; identify common errors.
Read: CFI ACS.
Ground: Pre-flight brief.
Flight: All required maneuvers.
Standard: Pass mock; ready for FSDO/DPE.

CFII — Airplane Instrument Instructor (Add-On)

After CFI + IRA. Build instrument lesson library, drill teaching of scan and approaches, partial-panel scenarios.

Stage I — Instrument Lesson Library

1.01 — Build Lesson Plans for Every IRA ACS Task

Objective: Lesson plan binder for IRA instruction.
Read: IFH; CFII ACS.
Ground: Scan, holds, approaches, missed, partial panel.
Flight: None.
Standard: Complete binder.

Stage II — Teaching Instrument Skills

2.01 — Teach Scan & Basic Attitude Instrument Flying

Objective: Demonstrate and teach scan techniques.
Read: IFH Ch 5.
Ground: Common scan errors and corrections.
Flight: Right seat as PIC; teach scan.
Standard: Student replicates technique.

2.02 — Teach Holds and Approaches

Objective: Teach hold entries and all approach types.
Read: AIM 5-3, 5-4.
Ground: 5 Ts; CRAFT; missed approach flow.
Flight: Teach hold and approaches.
Standard: All maneuvers to ACS standards.

2.03 — Teach Partial-Panel & System Failures

Objective: Teach partial-panel: vacuum, electric AHRS, pitot-static.
Read: IFH Ch 7.
Ground: Failure modes; standby instruments.
Flight: Simulated failure scenarios.
Standard: Student maintains control; flies missed if unable.

2.04 — Teach Icing Recognition & Escape

Objective: Teach airframe icing recognition and escape.
Read: AIM 7-1-19; AFM.
Ground: Ice physics; equipment use.
Flight: Discuss; simulate where possible.
Standard: Student articulates plan.

Stage III — FII Test & Mock Practical

3.01 — FII Knowledge Test Prep

Objective: Pass FII knowledge test (≥70%).
Read: AIM; IFH; current ACS.
Ground: Drill instrument-specific questions.
Flight: None.
Standard: Pass; sign-off.

3.02 — Mock Practical

Objective: Simulate CFII practical: oral + flight.
Read: CFII ACS.
Ground: 3+ hour oral.
Flight: All CFII maneuvers and teaching.
Standard: Pass mock; ready for DPE.