



COMBINED COMMERCIAL & FLIGHT INSTRUCTOR SYLLABUS



Arlynn McMahon

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INTRODUCTION

Why a Combined Program

Let's face it, after completing the instrument course you were worn out. The instrument is so long and arduous that many are not excited about facing two additional exhaustive training programs. This combined commercial/flight instructor syllabus reduces the burden and is a more efficient use of your time, energy, and money. For the industry, facing yet another shortage of flight instructors, it provides a fast track for those local, mature pilots who are not airline-bound and would love the opportunity to share their passion and experience with others.

80% of the material covered in the Commercial Pilot Course is a repeat of the Private Pilot material and then it is repeated again in the Flight Instructor Course. Information on knowledge exams is very close. The big difference is that as a commercial candidate the material is reviewed, while as a flight instructor candidate you learn to teach it. Why do the job twice? Why not review the material while learning to teach it?

Even in flight the maneuvers are nearly the same except that in the flight instructor course you perform them from the right seat. However, newly certificated flight instructors often report that they don't feel completely comfortable flying and teaching from the right seat—they would like more hours flying from the right seat—without having to pay for them! So, why not initially learn commercial maneuvers while flying from the right seat?

Why You Care About the Author of Your Syllabus

Arlynn McMahon was Chief Flight Instructor for 30 years at a robust 141/61 flight school with satellites on three airports. Under her direction, the school trained 1,000s of pilots and hired 100s of flight instructors. It was common for new flight instructors to work at her flight school for five years or more. They earned better than average wages, experienced aviation adventures of all kinds and were excited about their aviation lives. Her philosophy was to produce "aviation citizens and work-ready instructors." Graduates launched successful, long-term, aviation careers spanning every branch of the military, every major airline around the world, in the DOT/FAA/NTSB and in Fortune 500 corporate flight departments. Some she hired in her business, others started their own aviation businesses.

Additionally, McMahon has served on the FAA General Aviation Joint Steering Committee (GAJSC), was an active member of the National Association of Flight Instructors (NAFI) served on the Board of Directors and was National Chief Flight Instructor Mentor for the Society of Aviation and Flight Professionals (SAFE).

The author brings this top-gun experience and philosophy to your training in this syllabus. Hang on; this is not the normal aviation training experience. You're gonna love it.

Course Objectives

With this syllabus you'll acquire the necessary flight proficiency to meet the requirements for an initial commercial pilot certificate and an initial flight instructor certificate with an airplane category and single-engine land class rating.

The objective of this course is to weave learning the material with teaching the material. By learning to teach the material you are better equipped to apply the information later on.

Another objective of this course is to make you an aviation citizen and a work-ready professional. As a pro pilot, you'll be flying to never-been-before places; in never-flown-before airplanes. This means you'll need to know not only WHAT to think, but HOW to think through never-experienced-before problems and managing never-met-before people. This course teaches you to think like an experienced pro pilot so that you may be worthy of a higher than average wage as you compete with others for the best aviation clients, the most lucrative aviation assignments, flying the most exciting airplanes.

This syllabus is designed to be used in a Part 61 training environment, completed within 60 days. However, it can easily accommodate part-time training by reducing the number of training hours per week or it can be accelerated. A commercial pilot certificate is a prerequisite to enrolling in the flight portion of a Part 141 flight instructor course. However, portions of this syllabus: the ground training, the scenarios and the concepts used in training, can easily be incorporated into an approved training environment.

Hey, You! Yeah, I'm Talking to You!

The word “you” is used throughout this syllabus because this is your training—the learner, the student, the customer—the future aviation professional. Every opportunity is harnessed to provide you with new and varied experiences that will build your confidence and competence. The focus is on You! We know you want to do your best. This syllabus will guide your training but success is up to You!

What's Expected of You

You are expected to think. No super-intelligence is necessary. But participating in the role-playing and completing the pre-flight assignments are key in developing the ability to think like an experienced pro pilot; the key to good aeronautical decision-making.

During your first appointment with the instructor, you will review your logbook and compare your experience to the required 14 CFR §61.127 aeronautical experience. With this information, you'll know how many total hours are needed. Knowing your total hours, you will participate in making a Training Plan (*see* Appendix page 89). Once the Training Plan is completed, you can establish a budget (page 92). After the budget is done, you and the instructor will sign a Training Agreement (page 93). Then training will begin.

Prerequisites

You must:

- Hold at least a private pilot certificate with airplane single engine land with an airplane instrument rating.
- Possess at least a current third class medical certificate during training and practical exams (...but you'll need at least a second class medical once you're ready for work.)
- Be at least 18 years of age—but more than that, you must be emotionally mature enough to accept a little tough-love critique and to deal with people respectfully in a working, business relationship... many of whom will be much older than you
- Know how to work: meaning, that you are disciplined in being punctual for appointments and in following-thru on promises; you know how to self-direct learning tasks; and, you're willing to put in extra effort when necessary to meet deadlines and goals.
- Have a Spin Endorsement. It's preferred that your spin endorsement be done in something more like an Aerobat or a Citabria rather than a Stearman or an Extra300. Granted, the latter are way more cool but an airplane having flight characteristics similar to one you'll be instructing in, is valuable. It's recommended that your spin endorsement be completed within six months of your initial flight instructor practical exam—the endorsement never expires, but this assures you don't forget the finer points of the spin training.

It is recommended that FAA knowledge exams be passed before enrolling, preferably within six months of your initial flight instructor practical exam. Just buy the test prep material and get the tests done. You are required to pass three exams:

- Commercial Pilot Airplane (CAX)
- Fundamentals of Instruction (FOI)
- Flight Instructor Airplane (FIA)

Additionally, it's recommended that you have logged at least 221 hours of flight time before enrolling. Otherwise, plan to do some extra flying outside of the syllabus. This syllabus will provide 29 hours of flight time. On the first meeting with your instructor, you'll compare your logged experience against CFR 61.127 to develop a complete list of aeronautical experience requirements you have met or will need to meet before graduation.

Aeronautical Experience in this Syllabus

This syllabus includes 29 dual hours in a complex airplane, during which you will usually occupy the right seat, including a daytime, 2-hour, 100 NM cross-country flight and a nighttime, 2-hour, 100 NM cross-country flight. You are usually PIC during training flights, logging PIC time to the extent possible. No solo time is included. If you choose to solo, be aware that some airplanes require the PIC to occupy the left seat. This may affect your ability to fly from the right seat when solo. It may also restrict your ability to be PIC during training. Your instructor will help you to determine your status of PIC before each flight.

The FAA does not allow a “combined checkride.” Two separate practical exams are planned in this syllabus: a commercial and a flight instructor. With the consent of the Designated Pilot Examiner, in an airplane where the manufacture does not require the PIC to occupy the left seat, your commercial practical exam may be conducted with you flying from the right seat. Your instructor will communicate with the examiner in advance, so you'll not have any last minute surprises.

There are no block quizzes. The FAA Knowledge Exams demonstrate your knowledge. There are no progress checks. Your commercial practical test is a good indication of training that may be necessary as you continue toward the flight instructor practical test.

Grades Used in Training

NOTE: Only the letter in the () will appear on lesson plans.

- **Explain (E)**—At this level, you can discuss the topic and understand its underlying concepts. In flight, you are pilot-in-command but transfer of controls to the instructor for correction of technique is routine.
- **Practice (R)**—You understand what to do and how to do it—but prompting from the instructor is necessary. In flight, transfer of controls to the instructor is seldom; as you quickly identify and correct your own errors. If you hear “watch your altitude”, “get back on heading”, or while as the instructor in training “you forgot to remind your student to complete the checklist”, this would be an indication that you are at this level.
- **Perform (P)**—You approach aviation with a businesslike attitude. You gather pertinent information, identify possible courses of action, evaluate risks and make appropriate decisions. You are the decision-maker. You discuss the task correctly, clearly and concisely without prompting. You complete inflight maneuvers to commercial practical test standards while simultaneously explaining them. You complete individual tasks while maintaining an overall big-picture situational awareness. As an instructor, you recognize and leverage unscheduled learning opportunities.
- **Manage (M)**—You plan and design an efficient flight experience to meet objectives. You handle multiple priorities while maintaining situational awareness. As the instructor, you apply effective instruction techniques. You bring multi facets to each new learning opportunity and you prevent instructional surprises by anticipating student errors. You perform nearly all of the “instruction” in the cockpit.
- **Not Observed (NO)**—Any task not accomplished or observed.

Training Record

Each lesson plan is designed to document training, with grades and notes, to serve as a training record. Additionally, a Training Summary Chart is provided in the Appendix (page 94).

Personal Material Needed

- TSA acceptable proof of US citizenship
- Your driver's license, pilot certificate and medical certificate
- Not required, but a laptop and a thumb-drive would be nice, but don't purchase one just for this training
- Flying equipment—headsets, sunglasses, E6-B and plotter, VFR NavLogs, kneeboard, view limiting device, fuel checker, checklists, airport diagrams, etc.

Required Materials

There are a number of great training books available but FAA handbooks are recommended for technical subject area reference. Your teaching techniques and procedures must conform to the information set forth in these handbooks. These handbooks are the references used by the FAA and examiners in evaluating your performance and the performance of customers you train.

A new instructor must have reference material that is easy to use and well organized. Each of the required materials is available from online suppliers, but it is recommended that new flight instructors purchase books and charts—real paper stuff. This allows you to yellow highlight important information and to make personal notes in margins. After certification, then it is preferred to use online resources to maintain materials up to date. We're not against using modern online resources; but we know what works best for you during training. Verify that you have the current edition!

- Local VFR sectional chart
- POH/PIM/AFD for your training airplane
- *Train Like You Fly* by Arlynn McMahan
- *Lesson Plans to Train Like You Fly* by Arlynn McMahan
- *The Savvy Flight Instructor* by Greg Brown
- FAR/AIM Book
- *Aviation Instructor's Handbook* (FAA-H-8083-9)
- *Airplane Training Handbook* (FAA-H-8083-3)
- *Pilot's Handbook of Aeronautical Knowledge* (FAA-H-8083-25)
- Advisory Circular 61-65
- Practical Test Standards, Sport Pilot
- Practical Test Standards, Recreational Pilot
- Practical Test Standards, Private Pilot
- Practical Test Standards, Commercial Pilot
- Practical Test Standards, Flight Instructor
- A voice recording device for teaching rehearsals
- An email address

Recommended Materials

- File crate or flight bag on rollers to organize, store in one place and transport flight instructor tools. Save your back while being professional!
- Textbook highlighter

- Large 3-ring binder or expanded file
- Small toy airplane
- *Commercial Pilot Oral Exam Guide* by Michael D. Hayes
- *Flight Instructor Oral Exam Guide* by Michael D. Hayes

Resources—Plane, Instructor, and Examiner

A complex airplane is used for each lesson. The preferred airplane does not require the PIC to occupy the left seat. The instructor must meet the requirements of §61.195(h) to train initial flight instructors. Select an examiner that will allow the commercial practical test to be conducted with the applicant occupying the right seat.

Hours Allocation Table

| | Ground Instruction | Self Study | Dual Flight |
|---|-------------------------------|-----------------------|------------------------|
| In Phase 1 You will... | | | |
| On the Ground: You will be introduced to scenario-based training. You'll learn how to write a lesson briefing and you'll start teaching on the ground while reviewing technical subject areas. | | | |
| In the Plane: You'll review private pilot maneuvers while earning a complex aircraft endorsement and become familiar with flying from the right seat. | | | |
| GND 1: Course Orientation | 3.0 | 2.0 | |
| GND 2: Introduction to Teaching—The Teaching & Learning Process | 2.0 | 2.0 | |
| GND 3: Visual Scanning, Collision & Runway Incursion Avoidance | 1.0 | 4.0 | |
| GND 4: Weather Information | 2.0 | 2.0 | |
| GND 5: Principles of Flight & Airplane Flight Controls | 2.0 | 5.0 | |
| FLT 1.1: Selling Your Airplane | 1.0 | 4.0 | 1.5 |
| GND 6: Regulations & Publications | 3.0 | 2.0 | |
| GND 7: National Airspace System | 1.0 | 4.0 | |
| GND 8: Aeromedical Factors | 1.0 | 2.0 | |
| FLT 1.2: Your New Synthetic Vision | 1.0 | 4.0 | 1.5 |
| GND 9: Navigation and Cross-Country Flight Planning | 1.0 | 4.0 | |
| GND 10: Navigation Systems & Radar Services | 1.0 | 2.0 | |
| GND 11: Airplane Weight & Balance | 1.0 | 3.0 | |
| GND 12: Night Operations | 1.0 | 2.0 | |
| FLT 1.3: Dual Cross-Country Adventure | 1.0 | 4.0 | 4.0 |
| Phase Totals | 22.0 | 46.0 | 7.0 |
| In Phase 2 you will... | | | |
| On the Ground: Finish writing lesson briefings and practice teaching commercial maneuvers on the ground. | | | |
| In the Plane: Learn to think, act and fly as an aviation citizen and commercial pilot. You are not yet teaching in the plane, so just concentrate on flying with smoothness and accuracy. | | | |
| GND 13: Aircraft Documents | 1.0 | | |
| GND 14: Airworthiness Requirements | 1.0 | 2.0 | |
| GND 15: Operation of Systems & Performance and Limitations | 2.0 | 6.0 | |
| GND 16: High Altitude Operations | 1.0 | 2.0 | |
| GND 17: Commercial Pilot Certification & PTS | 2.0 | 1.0 | |
| FLT 2.1: Power-Off 180° Accuracy Landing | 1.0 | 6.0 | 1.0 |
| FLT 2.2: Eights-On-Pylons | 1.0 | 6.0 | 1.0 |
| FLT 2.3: Steep Turns and Accelerated Stalls | 1.0 | 6.0 | 1.0 |
| FLT 2.4: Steep Spiral | 1.0 | 4.0 | 1.5 |
| FLT 2.5: Chandelle | 1.0 | 4.0 | 1.5 |
| FLT 2.6: Lazy Eight | 1.0 | 4.0 | 1.5 |
| FLT 2.7: Simulated Engine Failure | 1.0 | 4.0 | 1.5 |
| FLT 2.8: Review as Necessary | 1.0 | 2.0 | 2.0 |
| FLT 2.9: Mock Commercial Practical Exam | 3.0 | 2.0 | 1.5 |
| FAA Commercial Pilot Practical Exam | — | — | 1.5 |
| Phase Totals | 18.0 | 49.0 | 14.0 |

In Phase 3 you will...

On the Ground: You will learn to plan instructional activities, apply the fundamentals of instruction, give effective instruction and to provide adequate student supervision.

In the Plane: You will start teaching during flight and become a work-ready flight instructor.

| | | | |
|--|-------------|--------------|-------------|
| GND 18: Instructor Responsibilities & Professionalism | 2.0 | 2.0 | |
| GND 19: Techniques of Flight Instruction | 1.0 | 1.0 | |
| GND 20: Effective Communication, Assessment & Critique | 2.0 | 1.0 | |
| GND 21: Risk Management & Liability Reduction | 2.0 | 1.0 | |
| GND 22: Pilot Certificates | 2.0 | 3.0 | |
| GND 23: Logbook Entries, Endorsements, 8710 & IACRA | 2.0 | 2.0 | |
| FLT 3.1: Effective Instruction...In the Cockpit, On the Ground | 2.0 | 1.0 | |
| FLT 3.2: Effective Instruction...In Flight | 1.0 | 1.0 | 1.5 |
| FLT 3.3: Effective Instruction...A Complete Lesson | 1.0 | 1.0 | 1.5 |
| FLT 3.4: Supervising a Student Pilot...Initial Solo | 1.0 | 1.0 | 1.0 |
| FLT 3.5: Supervising a Student Pilot...Faulty Landings | 1.0 | 2.0 | 1.0 |
| FLT 3.6: Mock Flight Instructor Practical Exam | 6.0 | 2.0 | 1.5 |
| FLT 3.7: Final Polish | 2.0 | 2.0 | 1.5 |
| Phase Totals | 25.0 | 20.0 | 8.0 |
| Syllabus Totals | 65.0 | 115.0 | 29.0 |

As you can see, this course is heavy in ground training and in self-study assignments. You should expect to commit 209 hours all total to complete this training. Refer to the sample Training Plan in the Appendix (page 89) to see how these hours might best be scheduled in a training plan.

GROUND TRAINING

Ground 1: Course Orientation

The purpose of this lesson is to welcome you to our flight school and to help you become familiar with our personnel, facilities, airport, training airplane, environment and training philosophy. You'll learn about the resources organized to help you organize your time and money so that you have a great, enjoyable, hassle-free learning experience.

CONTENT

- Flight school tour, introduction to personnel, and invitation to upcoming social events
- Review of your training record for commercial pilot eligibility
 - Aeronautical experience, knowledge exams passed, current medical, TSA citizenship, etc.
- Training timelines, deadlines, goals, and challenges for you, the school and/or instructor(s)
- The role of the instructor(s)...you might have more than one!
- What's expected of you
- Training Plan (page 89), Training Budget (page 92), and Training Agreement (page 93) signed
- Use of online resources
- Training syllabus overview, define "work-ready instructor"
- Grading
- Scenario-based training
- The role of Practical Test Standards in this training
- Review of safety policies and procedures
- How to amend your reserved assets (plane, instructor, classroom, etc) and schedule
- How to communicate with us if you should become disenchanted
- Customer lockers—where to store your stuff
- Where to get snacks, refreshment, and meals

Out at the plane...

- Checklists for the training airplane. Use of checklists—read-and-do versus do-then-verify
- General training airplane interior and cockpit familiarization
- Exterior preflight inspection—how-to
- Aircraft inspection status and INOP equipment reporting procedures
- Training Manifest (*see* Appendix page 96)
- Airport taxi diagram, primary runways, where to runup, refueling, etc.

ASSIGNMENT

1. Become familiar with the lesson plans in Phase 1
2. Read the assignment for your first flight, "Selling Your Airplane" in the Appendix (page 98)
3. Your assigned airport is _____
4. Your instructor's weight (including headset/flightbag, etc.) is _____ lbs
5. Read the article on Maneuvers Setup in the Appendix (page 97)
6. Procure any last minute needed materials and get yourself settled in

COMPLETION

This lesson is complete when:

1. You and the instructor have agreed on the status of your eligibility to meet the aeronautical requirements of a commercial pilot; you have made a training plan and signed the training agreement.
2. All discussion items are complete.

Your Initials _____ **Date:** ____/____/____

Ground 2: Introduction to Teaching—The Teaching & Learning Process

The objective of this lesson is to introduce lesson planning and the teaching process so that the training that you deliver will be organized and effective.

CONTENT

- Why use a written lesson plan?
- List the elements of “taxiing.” Brainstorm—off the top of your head, right now list the specifics you would introduce to a brand-new student-pilot about taxiing.
- Compare your list to “Taxiing” in the *Airplane Flying Handbook* (FAA-H-8083-3) starting on page 2-9
 - Did you miss anything? ...like the definition, perhaps?
 - Any instructor will remember major elements, but professionalism is in the details
 - Compare your list to the Private Pilot PTS
 - Would your student pass a practical exam with what you instructed?
- What is meant by the “elements” of a maneuver? Where to find them.

The Teaching Process

- Preparation of a lesson
 - The importance of drawing
 - For at least the first year: always, always, always teach using a written lesson plan!
- Organization of material
- Training delivery methods
 - Lecture method
 - Guided discussion method
 - Computer-assisted learning method
 - Demonstration-performance method
 - Drill and practice method
- Problem-based learning
- Instruction aids and training technologies
 - The importance of handouts and online resources

The Learning Process

- Learning theory
- Perceptions and insight
- Acquiring knowledge
- The laws of learning, domains of learning
- Characteristics of learning
- Acquiring skill knowledge
- Types of practice

- Scenario-based training
- Errors
- Memory and forgetting, retention of learning
- Transfer of learning

ASSIGNMENT

1. Refer to *Lesson Plans*. Practice making a presentation (include a drawing) to introduce the rectangular course. It might take a few times to get it like you want it. Record your practice so you can listen and make improvement.
2. Make an appointment to deliver this lesson briefing to your instructor.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor
2. Delivered a personal lesson briefing presentation for the instructor to critique
3. Make notes to apply the instructor's recommendatio
4. Organize your notes and lesson plan in your 3-ring binder or expanded file

Your Initials _____ **Date:** ____/____/____

Ground 3: Visual Scanning, Collision Avoidance & Runway Incursion Avoidance

The objective of this lesson is to review best techniques and practices for visual scanning, collision avoidance, and runway incursion avoidance. Apply these techniques to the training environment. Discuss with your instructor when, where and how you might incorporate opportunities for training.

A second objective is for you to correlate techniques that you will use to maintain your situational awareness while instructing or supervising a customer.

CONTENT

- Watch this! <https://www.youtube.com/watch?v=wwF3d9LtXYY>
 - Turn down the sound and concentrate on the pilot on the right during the first 3 minutes. He's is the CFI—notice how much his head moves around on this dual flight lesson as he checks out an FAA Inspector in the Quest Kodiak100.
- Relationship between a pilot's physical condition and vision, examples of vestibular and visual illusions
- Environmental conditions that degrade vision
- “See and avoid” concept
- Proper visual scanning procedure
- The “10-20-30 rule”: it's a tool to help you keep priorities straight. For each minute, spend about
 - 10 seconds verifying inside-cockpit charts and instrument indications
 - 20 seconds verifying outside references and landmarks
 - 30 seconds scanning for traffic.
- Relationship between poor visual scanning habits and increased collision risk
- Proper clearing procedures—must see behind as well as beside and in front of the airplane
- Relationship between aircraft speed differential and collision risk
- Flight and ground situations that involve the greatest collision risk
- Suggested best practices to avoid collisions:
 - Right-of-way rules—reduce collision risk
 - Organized cockpit—less heads down
 - Flight following—another set of eyes
- Challenges and requirements during taxi operations
- Common aircraft blind spots and the importance of clean windows
- Best practices to maintain situational awareness during taxi including inappropriate cockpit activities during aircraft movement
 - Watch this! <https://www.youtube.com/watch?v=vJG698U2Mvo>
- Hold lines and interpreting surface markings and lights
- Best practices and techniques to minimize pilot workload during aircraft movement
- Interpreting airport diagrams, previewing taxi routes, and hot spots
- Best practices and techniques to use when takeoff, landing or taxi in the vicinity of parallel runways
- Proper ATC readbacks and required runway entry/crossing authorizations

- Best practices for before-takeoff, before landing, and after landing at towered and non towered airports
- Best practices to use during night or low visibility, including use of exterior lights so you are seen by others

ASSIGNMENT

1. Print and study the airport diagram for your training airport. Make notes for a lesson briefing to be used to teach techniques to avoid airport surface incursions to a customer.
2. Make notes for a briefing to be used to teach techniques for scanning and collision avoidance to a customer.
3. Record these briefings and email the final version to your instructor for comment (you may need to make several to tighten-up rough spots). Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor
2. Prepared notes on a written lesson plan
3. Effectively taught this information on a recording that your instructor has critiqued
4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plans, teaching aids and handouts in your 3-ring binder or expanded file

Your Initials _____ **Date:** ____/____/____

Ground 4: Weather Information

The objective of this lesson is to review weather information and to learn to apply this information to the flight training environment. You'll also learn to teach weather information to customers using real life scenarios.

CONTENT

- Importance of a thorough preflight weather briefing
- Various means and sources of obtaining aviation weather information
- Interpreting and applying real-time weather reports, forecasts, and charts
 - METAR, TAF, and FA.
 - Surface analysis chart
 - Radar summary chart
 - Winds and temperature aloft chart
 - Significant weather prognostic charts
 - SIGMETs and AIRMETs
 - PIREPs
 - Windshear reports, recognition of aviation weather hazards to include wind shear
 - Icing and freezing level information
- In-flight weather updates
- Limitations of onboard radar and weather displays
- Factors to be considered in making a “go/no-go” decision
- Using clouds as signposts in the sky to predict flight conditions.
- Getting from “can I fly?” to “how can I fly” in weather
- Developing real-life, scenario-based weather training for student-pilots
- Developing real-life, scenario-based weather training for commercial pilots

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=FMagDRCpJ14>
2. Make notes for a lesson briefing that you would use to teach weather information to a customer. Record your briefing and email the final version to your instructor for comment (you may need to make several to tighten-up rough spots). Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed weather information with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 5: Principles of Flight & Aircraft Controls

Assume a good friend has just purchased a light sport airplane, one that none of the instructors in your area have ever flown before. You will have to check yourself out in the plane before teaching in it. Correlate techniques that you can use to predict possible handling characteristics when flying an unfamiliar airplane for the first time based on its design features.

The objective of this lesson is to review principles of flight, or what some might call aerodynamics. These subjects work hand-in-hand so we combined them for your review. However, when introducing them to customers, they are normally two separate lessons.

If opportunities are available, survey the ramp and hangar to find and discuss aircraft with various design components. Apply these principles to the training environment. Discuss with your instructor when, where and how to incorporate opportunities for including principles of flight throughout the pilot training that you give.

CONTENT

- Airfoil design characteristics
- Four forces of flight
- Lift and drag, lift/drag ratio
- Ground effect
- Axis of the airplane
- Airplane stability, maneuverability, and controllability
- Forces in flight—why an airplane turns
- Stalls
- Propeller principles
- Turning tendencies
- Load factors
- Primary flight controls
- Adverse yaw
- Secondary flight controls
- Types of flaps
- Trim controls
- Wingtip vortices, wake turbulence and precautions to be taken
 - Watch this! <https://www.youtube.com/watch?v=q-5RKZ4NeQw>

ASSIGNMENT

1. Read *Pilot's Handbook of Aeronautical Knowledge* chapters 3, 4, and 5 *three times!* There's a lot in there!
2. Make notes for a lesson briefing to be used to teach principles of flight to a customer.
3. Make notes for a lesson briefing to be used to teach aircraft controls to a customer.
4. Record these briefings and email the final version (assuming you might need to make several to hone out rough spots) to your instructor for comment. Will you provide handouts to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan.
5. Organized notes, lesson plans, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 6: Regulations & FAA Publications

The first objective of this lesson is a complete review of the Federal Aviation Regulations and publications while applying them to the training environment.

The second objective of this lesson is to learn how to introduce and review regulations with customers. This is not a subject that is taught once and is done. Experienced instructors introduce a few regulations at a time, as is appropriate to the subject being discussed or the flight so the pilot is able to apply the concepts and requirements to what he's doing. Then at some point while preparing for a practical test, you'll do a complete top-down review, page-by-page through the FAR book to verify "the numbers" are current in his head. Discuss with your instructor when, where, and how to incorporate opportunities for including airspace prompting throughout pilot training.

CONTENT

14 CFR:

- Part 1
- Part 61
 - Subpart C—Student Pilot
 - Subpart E—Private Pilot
 - Subpart F—Commercial Pilot
 - Subpart H—Flight Instructors
- Part 91
- NTSB Part 830
- Availability and method of revision

Publications:

- AIM
- Airport Facility Directory
- Advisory Circulars
- Practical Test Standards
- Pilot Operating Handbooks
- FAA-approved airplane flight manuals
- FAA Safety.gov—a great portal of resources for instructors
- FSIMS.FAA.gov—Flight Standards Information Management System: a single-source, web-based, repository of policy and guidance. Order 8900.1 and why you want to know about it

ASSIGNMENT

1. Visit www.FAAsafety.gov—checkout resources for instructors.
2. Make notes for a lesson briefing that you would use to teach techniques to publications to a customer. Record your briefing and email the final version (you may need to tighten-up rough spots) to your instructor for comment. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed publications with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan.
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 7: National Airspace System

The first objective of this lesson is a complete review of the National Airspace System for you.

The second objective is to learn how to introduce and review airspace with customers. Airspace is best introduced all together as one system, but it's not a subject that is taught once and is done. On one day, you will introduce it and all of the associated regulations. On another day you'll review it again, in pieces appropriate a given flight path and altitude to help the pilot apply airspace concepts and requirements. Then again, you'll review it during flight, so that the customer learns to correlate the requirements with his position. Discuss with your instructor when, where and how to incorporate opportunities for including airspace review throughout pilot training.

CONTENT

Let's assume that your route driving to the airport takes you on an Interstate, then into the downtown area, before transitioning thru a suburban neighborhood and out on a country lane. How do the rules of the road change—the speed limits, etc and what rules change—giving way to pedestrians, etc. Airspace is a set of rules for flying thru different areas of congestion.

- What is meant by “controlled airspace” What is controlled and who controls it?
- The layered airspaces: G, E, A—most difficult to visualize
 - How to find them on the chart, VFR weather minimums—day and night, pilot certification requirements, airplane equipment requirements, other operating rules that apply—aircraft speed limits
- The terminal airspaces: D, C, B—easier to see but more complicated requirements
 - How to find them on the chart, VFR weather minimums—day and night, pilot certification requirements, airplane equipment requirements, other operating rules that apply—aircraft speed limits
- Applying special VFR rules
- Special Use Airspace: prohibited area, restricted area, warning areas, alert area, military operations area, military training routes, special flight rule areas, ADIZ,
- Temporary Flight Restrictions (TFR)—not on the chart
- Don't think of it in pieces, it's one total system that works together
 - It gets complicated
 - Airspace overlies other airspace
 - Don't depend on GPS to keep you clear of airspace, find visual landmarks to stay well clear
- If you don't have sectional charts, visit www.skyvector.com to
 - Review airspace on the Miami Sectional, the St. Louis Sectional, the Salt Lake Sectional and the Washington Sectional

ASSIGNMENT

Make notes for a lesson briefing that you would use to teach techniques to avoid airport surface incursions to a customer. Record your briefing and email the final version (assuming you might need to make several to hone out rough spots) to your instructor for comment. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed the national airspace system with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 8: Aeromedical Factors

The objective of this lesson is to review aeromedical factors. You should apply each factor to the training environment. You will learn how to recognize when a customer is suffering, the effect and what corrective action you might recommend to remedy it. You'll also correlate which aeromedical factors may affect you; at what point you may be impaired as a flight crewmember, and when you should postpone flight to prevent that.

CONTENT

Medical certificates: You are excited about the prospective new student on the phone. He's very pleasant and has a great sense of humor. He's a decorated war hero and a successful businessman. He's made an appointment for later in the day to discuss training options in person. But, when he arrives you notice a prosthetic device where his left hand used to be...

- Watch this! <https://www.youtube.com/watch?v=Yop4fLr6bpo>
- What is a medical certificate, how to obtain one, and what is an AME
- When a driver's license is your medical certificate
- Duration and requirements for medical certificates
- Medical limitations and waivers
- Statement of Demonstrated Ability (SODA)—what it is, when it's appropriate, how to obtain one
- Best practices for medical self-certification before each flight IMSAFE

Factors that commonly show themselves before flight: Dr. Barnes rushes into the flight school, out of breath, "sorry to be late. You mind if I change clothes real quick?" You assure him that you are not under any time constraint and he can slow down. "It's been a busy day; I didn't even have time for lunch. And you know," he continues, "I don't think I was going as fast as the policeman indicated when he gave me that speeding ticket."

- Fatigue and stress
- Effects of over the counter medications
- Alcohol and drugs
- Dehydration: summer and winter
- Preventing the effects of nitrogen after SCUBA
- Reading the subtle clues about your customer's medical factors
- Best practices and policies that customers inform you of their medical status and changes

Factors that typically show themselves during flight: "Suzy, you are turning again. Keep your wings level, please." "But they ARE level", she insists with frustration in her voice...as her heading starts to drift again.

- Spatial disorientation and optical illusions
- Middle ear and sinus problems
- Hypoxia
- Hyperventilation
- Carbon monoxide poisoning
- Motion sickness

ASSIGNMENT

1. Research contact info for several AMEs in your area. Choose one you will recommend to your customers.
2. Make notes for a lesson briefing that you would use to teach aeromedical factors to a customer. Record your briefing and email the final version (assuming you might need to make several to hone out rough spots) to your instructor. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed with the instructor how aeromedical factors apply to the flight environment.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan.
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 9: Navigation & Cross-Country Flight Planning

The objective of this lesson is to review VFR navigation and flight planning. For your review, these subjects are similar and we combined them. However, when introducing this information to customers it's best to break it into two briefings.

Apply this information to the training environment. Discuss with your instructor when, where and how to incorporate opportunities for including navigation throughout the pilot training that you give.

CONTENT

- Terms used in VFR navigation
- Fundamentals of pilotage and dead reckoning
- Fundamentals of radio navigation for VFR pilots
- How to choose the best form of navigation along a route
- VFR Charts, Sectionals, Terminal Charts, WACs, determining currency, importance of current charts
- Identifying chart features, airspace, obstructions, frequencies and terrain features.
- Best practices in how to choose a course, enroute checkpoints, planning around airspace you might not be comfortable with, plotting a course
- Aviation sources for aviation weather and forecast information, how to obtain a good check on weather.
- Establishing personal weather minimums and best techniques in making a weather “go/no-go” decision
- Altering the plan if cloud, wind, and/or visibility conditions are close to but still meeting personal minimums.
- Best principles in selecting altitude(s), considering weather, pilot and equipment capabilities
- The NavLog: what it is, how to prepare it, the importance of “plan the flight and fly the plan”, how to use it to monitor the flight.
- Interpolating winds aloft, computing headings, speeds, flight time
- Calculating fuel consumption and determining an appropriate fuel reserve considering distance between airports, wind, terrain, and familiarity with the leaning procedure of the airplane flown.
- Using references: AFD, NOTAMs, radio communications, TFRs, runway and taxiway info/closures
- Appropriate actions in the event of unforeseen situations, choosing an alternate, best techniques for diverting to an alternate airport
- Best techniques for a pilot to get un-lost
- Information needed after arriving at an unfamiliar airport
- Flight plans: their purpose, how the system works, when to use the system, how to file, activate, and close

ASSIGNMENT

1. Choose which NavLog you will use when training customers. Print a few to have on hand.
2. Make notes for a lesson briefing to be used to teach navigation to a customer.
3. Make notes for a lesson briefing to be used to teach cross country planning to a customer.
4. Record your briefings and email the final version to your instructor for comment (you may need to make several to tighten-up rough spots). You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor.
2. Prepared notes on written lesson plans.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plans, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 10: Navigation Systems & Radar Services

The objective of this lesson is to review navigation systems and radar services. Apply this information to the training environment. Discuss with your instructor when, where and how to incorporate opportunities to include navigation systems and radar services in the training you will give.

If you've never been in an airplane capable of navigating with a system such as GPS or NDB, survey your airport to find a pilot or aircraft owner who will spend a few minutes with you or possibly allow you to ride-along. Most are very happy to share their knowledge and experience.

CONTENT

The ground-based navigational systems

- VOR/VORTAC
- NDB
- DME

Satellite-based navigation system

- RNAV
- GPS

Radar service and procedures

- Primary versus secondary radar
- Terminal Radar Approach Control versus Air Route Traffic Control Center
- Traffic information services

ASSIGNMENT

Make notes for a lesson briefing that you would use to teach techniques to avoid airport surface incursions to a customer. Record your briefing and email the final version (assuming you might need to make several to hone out rough spots) to your instructor for comment. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed navigational systems and radar services with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground II: Airplane Weight & Balance

The objective of this lesson is to review airplane weight and balance. Apply this information to the training environment. Discuss with your instructor when, where, and how to incorporate opportunities for including airplane flight control information throughout the pilot training that you give.

Correlate techniques that you will use to maintain weight and balance limitations during instruction that you give. Most syllabi introduce weight and balance around solo...when, in your syllabus, will you introduce it?

CONTENT

- Weight and balance terms
- Effect of weight and balance on performance
- Effect of load factor on weight—an extra 100 lbs could easily become 200
- Chapter 6 in a POH/PIM (usually)
- Different methods of weight and balance control
- Use the method supplied by your aircraft manufacturer
- Sample loading data versus the actual empty weight and CG for your specific airplane
- Find the latest data sheet signed by the technician that contains your actual empty weight and CG
- Determination of total weight and center of gravity and the changes that occur when adding, removing, or shifting weight
- Developing training scenarios for weight and balance problem practice
- A few best practices:
 - How to ask a lady how much she weighs...without getting slapped: “how much do you and your purse weigh?”
 - Add additional weight to everyone during winter for heavier clothes, boots, and jackets
 - Scale-weigh all cargo and baggage

ASSIGNMENT

1. Calculate a weight and balance with you flying your training airplane with full fuel. What is the weight of the heaviest customer you can allow before draining fuel? If the airplane is topped off and overweight, how will you drain fuel? What will you do with the drained fuel? How will you balance the airplane if you and a customer result in a forward CG that is out of limits?
2. Make notes for a lesson briefing that you would use to teach techniques to avoid airport surface incursions to a customer. Record your briefing and email the final version (assuming you might need to make several to hone out rough spots) to your instructor for comment. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed weight and balance with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.

4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 12: Night Operations

The objective of this lesson is to review night operations. Apply this information to the training environment. Discuss with your instructor when, where and how to incorporate opportunities for including night operations throughout the pilot training that you give.

CONTENT

- What is night? Requirement for lighting versus for logging
- **The pilot at night:** factors related to night vision, cones, rods and night optical illusions. Preserving night vision. Pilot night currency requirements.
- **The airport at night:** airport lighting, obstacle lighting, hazards on the FBO ramp at night, hazards of self-refueling at night.
- **The plane at night:** proper use of interior and exterior aircraft lights. The importance of having a flashlight with a red lens. Minimum equipment required at night. Increased fuel reserves.
- How normal procedures are different and best practices for night:
 - Preflight inspection—verify lights are operational!
 - Engine starting procedures
 - Taxiing and orientation on an airport
 - Takeoff and climb-out
 - In-flight orientation
 - Importance of verifying the airplane's attitude by reference to flight instruments
 - Navigation
 - Emergencies
 - Traffic patterns
 - Approaches and landings with and without landing lights
 - Go-arounds

ASSIGNMENT

Make notes for a lesson briefing that you would use to teach night operations to a customer. Record your briefing and email the final version (assuming you might need to make several to hone out rough spots) to your instructor for comment. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed night operations with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 13: Aircraft Documents

The objective of this lesson is to review aircraft documents, apply them to the training environment and learn to teach aircraft documents to customers.

CONTENT

- Pertinent papers: Registration Certificate now has an expiration date
 - Locate them, look at them
- Operating limitations, instrument markings, and POH/AFM
- Placards required included in POH/AFM Chapter 2, locate each and look at them
- POH versus PIM versus AFM
- Standardized in format:
 - Chapter 1—General
 - Chapter 2—Limitations
 - Chapter 3—Emergencies
 - Chapter 4—Normal Procedures
 - Chapter 5—Performance
 - Chapter 6—Weight and Balance
 - Chapter 7—Systems Descriptions
 - Chapter 8—Handling, Service and Maintenance
 - Chapter 9—Supplements
 - Chapter 10—Safety Tips: an important section that is often overlooked!
- Equipment list
- Aircraft Quick Reference (*see* Appendix page 109)

ASSIGNMENT

As assigned by instructor

COMPLETION

This lesson is complete when you have discussed it with the instructor.

Your Initials _____ **Date:** ____/____/____

Ground 14: Airworthiness Requirements

Who is responsible for determining a this aircraft is airworthy? How will you determine this if airplane is airworthy?

1. A friend has purchased a C-152 and has hired you to instruct him for his private pilot certificate...
2. A customer presents with his C-172 for you to complete a flight review...
3. You're a flight instructor but a friend asks that you fly as "safety pilot" in the flying club's aircraft ...

The objective of this lesson is to review airworthiness requirements, apply them to the training environment and learn to teach them to customers.

CONTENT

- What makes your airplane an airplane? The Type Data Sheet—what it is, why it's important
- Definition of airworthiness
 - The FAA's role in determining at manufacture
 - The maintenance inspector's role in determining during inspections and repair
 - The pilot's role in determining at preflight
 - › Use the checklist, don't get distracted, be in a hurry, or make assumptions

Your flight was relayed a day returning home because of hazardous weather. Now it's a new month and the inspection is out of date. How do you legally get home?

- Inspections—when is it required, who does it, where is it recorded, how long is it valid and how do you legally fly when it's out of date
 - Annual, 100-hour, pitot-static, transponder, VOR check
 - ELT—what it is 121.5 vs 406 style, flight without, testing, inspections
 - Phase inspections
 - Special flight permit—what it is, when its needed, how to get one
- Other maintenance: service bulletins, airworthiness directives
- Most common way a new-CFI gets into an unairworthy airplane is on a reoccurring AD due "at the next inspection" while overflying the 100-hour in the grace-period
- Hands-on review of **actual** maintenance records:
 - Maintenance recording requirements. "Return to service"—very important words
 - Supplemental Type Certificates, yellow tags, the approved parts program
- Required instruments and equipment for day/night VFR.
- Hands-on review of an **actual** Master Minimum Equipment List
 - Approved Minimum Equipment List—what it is, how to get one
 - Deferring maintenance with and without a MEL
 - Limitations for flight with inoperative equipment
- Best practices for flight instructors:
 - Don't fly an aircraft you don't know, with a pilot you don't know, with known inoperative equip
 - Don't fly an aircraft with more than three INOP placards

- Reconsider your personal minimums for flight with inoperative equipment during dual flight lessons—can you handle it on top of teaching and supervising a customer

ASSIGNMENT

1. Review the appropriate Part 91 regulations
2. Review the Inoperative Equipment Flowchart in the Appendix (page 106).
3. Make notes for a lesson briefing that you would use to teach airworthiness requirements to a customer. Record your briefing and email the final version to your instructor. You'll complete this by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed airworthiness requirements with the instructor.
2. Effectively taught this information on a recording that your instructor has critiqued.

Your Initials _____ **Date:** ____/____/____

Ground 15: Operation of Systems & Performance and Limitations

The objective of this lesson is to review the operation of systems, performance, and limitations, apply them to the training environment, and learn to teach aircraft documents to customers. Another objective of this lesson is to define what “instructional level” of knowledge is expected.

CONTENT

Operation of Systems—As a professional pilot you are expected to: describe the overall flow of the system. Describe what happens within the system when activated. Describe or draw the major components of the system and how components work together. Describe how the pilot interacts with the system, the normal operation of the system during including warnings the pilot might be alerted to. Describe probable failures of the system the pilot should anticipate as a possibility and what the pilot action can/should be when experiencing a system failure—all without prompting. *NOTE:* The aircraft maintenance technician, maintenance manuals, and schematics may be of help. Include any modifications that have been installed on the airplane.

- Primary and secondary flight controls, trim
- Engine and propeller
- Landing gear (include tires and brakes) system
- Fuel, oil, and hydraulic systems
- Electrical system
- Avionics (including autopilot)
- Pitot static, vacuum/pressure systems (and associated instruments)
- Environmental system
- Deicing and anti-icing system

Performance and Limitations—As a professional pilot you are expected to calculate precise performance as well as to have an general idea of how your aircraft performance will vary under changing conditions.

- How to use each performance chart and table in the POH/AFM of the training airplane
 - Calculate at max gross weight then calculate again at a weight with minimum crew and fuel
- How to use performance data in determining aircraft performance
 - Effects of exceeding airplane limitations
- Every chart as a note on the conditions the chart is based on. Describe in general and calculate specifically the effects a change in conditions on performance (20 degrees warmer/cooler, etc.)
- Factors to be considered in determining that the required performance is within the airplane’s capabilities
 - Normal versus Utility Category

ASSIGNMENT

As assigned by the instructor.

COMPLETION

This lesson is complete when you have an instructional level of knowledge and are able to effectively teach operation of systems and aircraft performance and limitations.

Your Initials _____ **Date:** ____/____/____

Ground 16: High Altitude Operations

The objective of this lesson is to review high altitude operations. Apply this information to the training environment. Discuss with your instructor when, where and how to incorporate opportunities for including high altitude operations throughout pilot training.

CONTENT

If you've never been in an airplane capable of high altitude flight, survey your airport to find a pilot or aircraft owner who will spend a few minutes with you or possibly allow you to ride-along.

- What is high altitude?
- **The pilot at high altitude:** physiological hazards and general pilot health, hypoxia, when is a high altitude endorsement required. The required training is outlined in the regulation.
- **The plane at high altitude:** examples of single engine airplanes approved for high altitude, Minimum equipment required, how performance is affected, how flight planning is different—VFR? Use high altitude charts
- **High altitude environment:** high altitude clouds, thunderstorms, clear air turbulence, winds, jet stream
- **Supplemental Oxygen:** regulatory requirements for use of oxygen, the importance of “aviator’s breathing oxygen,” characteristics of various types of supplemental oxygen systems, care and storage of high-pressure oxygen bottles
- **Pressurization:** what it is, when it’s needed, benefits and limitations, fundamental concept of cabin pressurization, operation of a cabin pressurization systems, rapid and explosive decompression, problems with decompression and corresponding solutions

ASSIGNMENT

Make notes for a lesson briefing that you would use to teach techniques to high altitude operations to a customer. Record your briefing and email the final version to your instructor for comment (you may need to make several to tighten-up rough spots). Will you provide a handout to help your customer remember and apply this information? You’ll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed high altitude operations with the instructor.
2. Prepared notes on a written lesson plan.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor’s recommendation to your lesson plan
5. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 17: Commercial Pilot Certification & PTS

The objective of this lesson is to review pilot certification, including the requirements, privileges, and limitations of each as well as how to keep them coming back after certification for proficiency.

CONTENT

- Training requirements
- Aeronautical experience
- Privileges and limitations of a commercial pilot explained
- Definitions
 - AC 120-12A, *Private Carriage vs Common Carriage*
 - For hire
 - Holding out
 - Operational control
 - Common carriage
- §61.133 “...in accordance with this part *and with the applicable parts of this chapter...*”
 - Operating certificate, waiver, letter of authorization, and approved drug testing requirements
 - SFARs
- Practical Test Standards—Watch this! https://www.youtube.com/watch?v=pY1_HrhwaXU
 - The PTS system works—one set of standardized objectives
 - Is your book current? “D”, effective date, changes
 - Standard format of the PTS book
 - Importance of the Introduction section
 - › Major Enhancements Section
 - › Special Emphasis Areas—apply to all TASKS though not mentioned in TASK
 - › The Additional Rating Task Table—how to use it
 - Areas of operation
 - Tasks—read “notes” on any TASK
 - All practical tests have 3 possible outcomes: Disapproval, Discontinuance, or Satisfactory
 - When it’s a disapproval or discontinuance, examiner can still ask anything they want on next visit
 - When it’s a satisfactory—listen carefully to the postflight briefing—most pilots don’t!
 - Practical Test Checklist—pack your flightbag the night before
- Thorough review of the Commercial Pilot PTS

ASSIGNMENT

1. Read the appropriate Part 61 regulations
2. Review the Commercial Pilot Decision Tree
3. Make notes for a lesson briefing you would use to introduce the commercial pilot certification process to a commercial pilot candidate.
4. You’ll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor.
2. Demonstrate an understand of the privileges and limitations of a commercial pilot through scenario-based oral quizzing.
3. Organized notes and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 18: Instructor Responsibilities & Professionalism

The objective of this lesson is to learn to apply instructor responsibilities and professionalism to the flight training environment.

CONTENT

Aviation instructor responsibilities

- Helping students learn
- Providing adequate instruction
 - Best business practices:
 - › Use a Training Agreement (*see* Appendix page 93)
 - › Don't be on the phone from the time you step onto the tarmac until after you're back inside the FBO/flight school
 - › Be at the airport when dispatching solo students and during student X/C planning
 - › Reduce solo authorizations from 90 days to 14 days
 - › Solo student's must call you before taking off after any unscheduled landing
 - › Solo cross-countries using Flight Following, track with www.FlightAware.com
 - › File and activate a flight plan for solo cross-countries
- Standards of performance
- Minimizing frustrations
 - How to honestly and accurately communicate time and money requirements for training

Flight instructor responsibilities

- Physiological obstacles for flight students
- Ensuring student ability
- Professionalism
 - Best business practices:
 - A paying client is a customer. Be friendly, but they aren't paying you to be their friend.
 - Bill for all your time. Use a timer on your android. Don't give away your time.
 - › Take 5 minutes to chit-chat—then, “ready to get to work?” and start the clock.
 - › Let the client see you start the clock so he knows what he's paying for.
 - › Socialize for 5 minutes after the clock is stopped, then “time to get back to work!”
 - If a client isn't a good match for you, be ready to refer them to another instructor
 - Accept that a client can teach you something
- Evaluation of student ability
- Aviation instructors and exams
- Professional development
 - Work with an experienced-CFI Mentor
 - Earn your WINGS—participate in the Pilot Proficiency Program
 - Obtain ground instructor certificates—only the cost of the test prep and test

- Apply for a Gold Seal CFI as soon as you're eligible
- Apply for a Master Instructor as soon as you're eligible (www.masterinstructors.org)

ASSIGNMENT

Read *The Savvy Flight Instructor* by Greg Brown.

COMPLETION

This lesson is complete when you are able to apply this information to the flight instruction that you give.

Your Initials _____ **Date:** ____/____/____

Ground 19: Techniques of Flight Instruction

The objective of this lesson is to learn to apply techniques of flight instruction to the flight training environment.

CONTENT

- Obstacles in learning during flight instruction
- Demonstration-performance training delivery
- Positive exchange of controls
- Sterile cockpit
- Use of distractions
- Integrated flight instruction
- Assessment of piloting ability
- Aeronautical decision making
- “Dog Commands” (see Appendix page 111)
- Instructing in training devices—different types, approvals needed
- Best practices when instructing in an unfamiliar airplane
 - Aircraft Quick Reference card (see Appendix page 109)
- Best practices for instructing in high performance aircraft
- Best practices for instructing in complex aircraft

ASSIGNMENT

As assigned by the instructor.

COMPLETION

This lesson is complete when you are able to apply this information to the flight instruction that you give.

Your Initials _____ **Date:** ____/____/____

Ground 20: Effective Communication, Assessment & Critique

The objective of this lesson is to learn to apply effective communication, assessment, and critique to the flight training environment

This lesson requires the instructor to draw on his personal experiences in training pilots and sharing stories and examples that will help you see these concepts as they have occurred in real life.

Notice how even YouTube can be a great teaching aid!

CONTENT

Human Behavior and Effective Communication—Watch this! <https://www.youtube.com/watch?v=rLDgQg6bq7o>

- Definitions of human behavior
- Human needs and motivation—specific examples of how needs influence motivation
- Defense mechanisms—specific examples of how to defuse defense mechanisms
- Student emotional reactions—specific examples of different emotional reactions
- Basic elements of communication—watch this! <https://www.youtube.com/watch?v=YQgyeWBZrLQ>
- Barriers to effective communication—specific examples of poor communication, the consequences, and how to avoid them
- Developing communication skills

Assessment and Critique

- Assessment
- Purpose of assessment
- General characteristics of effective assessment
- Traditional assessment
- Authentic assessment
- Oral assessment
- Characteristics of effective questions
- Types of questions to avoid

Critique

- Instructor/student critique
- Student-lead critique
- Small group critique
- Individual student critique by another student
- Self-critique
- Written critique

ASSIGNMENT

As assigned by the instructor.

COMPLETION

This lesson is complete when you are able to apply this information to the flight instruction that you give.

Your Initials _____ **Date:** ____/____/____

Ground 21: Risk Management & Liability Reduction

The objective of this lesson is to learn to apply risk management and methods to reduce liability to the flight training environment.

CONTENT

Risk management

- Principles of risk management
- Risk management process
- Level of risk
- Assessing risk
- Mitigating risk
- IMSAFE checklist
- PAVE checklist
- 5P checklist

Reducing professional flight instructor liability—best business practices

- Purchase CFI professional liability insurance
- Use a syllabus and written lesson plans, signed by the client
- Maintain professional student training records, keep notes
- Make logbook entries using FAR references and §61.65 terminology
- Student-pilots pass the FAA knowledge exam AND pre-solo exam before solo
- Keep your skills fresh and current
- Build a library of Aircraft Quick Reference Cards (*see* Appendix page 109)

ASSIGNMENT

As assigned by the instructor.

COMPLETION

This lesson is complete when you are able to apply this information to the flight instruction that you give.

Your Initials _____ **Date:** ____/____/____

Ground 22: Pilot Certificates

The objective of this lesson is to review pilot certification, including the requirements, privileges, and limitations of each as well as how to keep them coming back after certification for proficiency.

CONTENT

- Sport Pilot
 - Training requirements
 - Privileges and limitations
 - Medical Certificate
- Recreational Pilot
 - Training requirements
 - Privileges and limitations
 - Medical Certificate
- Private Pilot
 - Training requirements
 - Privileges and limitations
 - Medical Certificate
- Recent flight experience requirements
 - Carrying passengers versus without passengers
- Required entries in pilot logbook or flight record
- English proficiency—what to do when you are having trouble understanding them or they don't seem to understand you
- Changes in certification changes. Watch this! <https://www.youtube.com/watch?v=XsCJZhE3Eyw>
 - Things are always changing in aviation. It's important to stay up to date.
- Keeping them current after certification
 - Helping customers establish an on-going proficiency program
 - The Pilot Proficiency Program

*For Commercial Pilot Certification,
See Ground 17 (page 40)*

ASSIGNMENT

1. Review the appropriate Part 61 FAR's
2. Make notes for a briefing you would use to introduce the Private Pilot certification process to a new prospective pilot. Sell it! Feature why aviation is safe and why you are the best CFI
3. If you don't already have one, visit www.faasafety.gov and set up an account
4. Contact your local Safety Program Manager and become a FAAS Team Rep
5. Record your briefing and email the final version (assuming you might need to make several to hone out rough spots) to your instructor for comment. Will you provide a handout to help your customer remember and apply this information? You'll complete this assignment by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor.
2. Prepared notes on written lesson plans.
3. Effectively taught this information on a recording that your instructor has critiqued.
4. Applied the instructor's recommendation to your lesson plan.
5. Organized notes, lesson plans, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Ground 23: Logbook Entries, Endorsements, 8710 & IACRA

The objective of this lesson is to introduce you to logbook entries and certificate endorsements. Words matter. Having the correct wording, when and where they are required, will keep you out of trouble. Failing to properly endorse a student pilot is a sure way to be in big trouble with the FAA.

CONTENT

- You are working as an instructor at the flight school when Mike, a customer you've seen around but don't really know, asks if he can go solo...what will you tell him?
- Mary's primary instructor is away on vacation for 2 weeks. You know Mary, but you've never given her instruction. She is asking you to endorse her to take a Private Pilot Knowledge Exam. How will you help her?
- AC 61-65—an instructor's best friend. Use these exact words and you won't be sorry!
- Required logbook entries for instruction given. Use FAR references—example of a logbook entry after a lesson on stalls.
- The proper way to sign an endorsement
- Each student-pilot endorsement you may be asked:
 - When is it necessary, where is it recorded?
 - How long is it valid? What happens after it expires?
 - What training must be given before the student-pilot is eligible for that endorsement?
 - What are the instructor limitations in giving that endorsement?
 - Always verify endorsements from a student pilot transferring from another flight school—don't assume the last instructor did it correctly.
- Specific examples of best practices for determining limitations you place on student-pilots: crosswind and wind velocity, ceilings, visibility, consider reducing authorization to 14 days, phones off—no calling, texting, or photography while operating the airplane.
- How to prepare an effective pre-solo knowledge exam
- Endorsements for pilot privileges
 - Recommendation of an initial pilot certification
 - Additional pilot certification
 - Additional aircraft qualification
 - Flight review
 - WINGS—we'll discuss it more in "Ground 22: Pilot Certificates" (see page 48)
- The 8710 Form—the examiner's first impression of student's training. A thorough box-by-box how to properly complete.
- IACRA
- Required flight instructor records—smart flight instructor recordkeeping

ASSIGNMENT

1. Write out limitations you will place on your student-pilots.
2. Complete training on the IACRA training site.

3. If you don't have an IACRA account, start one
4. Revise the pre-solo knowledge exam for your use. You'll complete these assignments by _____.

COMPLETION

This lesson is complete when you have:

1. Discussed items with the instructor.
2. Completed the assignments.
3. Reviewed the assignments with the instructor and made needed corrections.
4. Organized notes, lesson plan, teaching aids, and handouts in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

FLIGHT TRAINING

Flight 1.1: Selling your Airplane

OBJECTIVE

In this lesson you will fly as the pilot-in-command, from the right seat, as you become acquainted with the flight characteristics as the training airplane. You will become familiar with the installed equipment on board the aircraft and you will learn the benefits of flying/training in a scenario-based training program.

MISSION

Congratulations, you are about to buy a sexy new SR22, but before you do, you must sell your current plane. On this flight, you will role-play as an aircraft owner demonstrating your plane to a prospective buyer (your instructor). Of course the buyer wishes to sit left seat and he's asked you to demonstrate a variety of maneuvers. The prospective buyer would like to conduct landings at _____ airport so that his wife can see the aircraft. You are not "teaching" on this flight, however, you will surely want to impress the perspective buyer.

Prepare for the flight so that you use checklists to perform the preflight inspection, start, run-up, handle communications, and taxi with minimum assistance from the instructor. Remember your passenger safety briefing. Prior to takeoff, with the instructor's assistance, you will program the GPS to help maintain situational awareness as you demonstrate maneuvers in the general direction of _____ airport. Enter the traffic pattern; set up a stabilized approach, demo a go-around and a landing there. Taxi back, program the GPS to help you stay oriented during the return flight. After takeoff, you will demo maneuvers before entering the traffic pattern at your home airport. Demo a go-around before landing. Handle all radio communications and after landing procedures.

PREFLIGHT DISCUSSION

Review your completed Manifest. Preview the flight.

CONTENT AND EVALUATION

| E | R | P | M | NO | Refer to <i>Grades Used in Training</i> on page 3 for description of grades |
|---|---|---|---|----|---|
| | R | | | | Aircraft airworthiness, certificates and documents |
| | R | | | | Flight preparation—manifest, weather briefing |
| | R | | | | Passenger safety briefing |
| | R | | | | Operation of all installed equipment |
| | R | | | | Preflight inspection |
| | R | | | | Precise use of checklists |
| | R | | | | Cockpit management |
| | R | | | | Engine starting and warm up |
| | R | | | | Taxiing, proper use of throttle and brakes |
| | R | | | | Radio procedures and correct phraseology |
| | R | | | | Before-takeoff check and engine run up |
| | R | | | | Normal takeoff and climb |
| | R | | | | Climbs, descents, level off, and trimming |
| | R | | | | Straight and level, turns to headings |
| | R | | | | Go-around |
| | R | | | | Slow flight |
| | R | | | | Steep turn |
| | R | | | | Stall series |
| | R | | | | Stabilized approach |
| | R | | | | Normal landing |
| | R | | | | After landing procedures |

Continued...

| | | | | | |
|--|---|--|--|--|--|
| | R | | | | Parking and securing |
| | R | | | | Postflight procedures |
| | R | | | | Situational awareness |
| | R | | | | Clearing turns and collision avoidance |
| | R | | | | Positive exchange of flight controls |

List and discuss decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Instructor will record notes on the back. Replay the flight: what was good, what should be done different next flight?

ASSIGNMENT

Prepare for the next flight. Refer to *Lesson Plans* and prepare a briefing for power-off and power-on stalls.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an “X” in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught power-off and power-on stalls on a recording that your instructor has critiqued; you applied the instructor’s recommendations; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 1.2: Your New Synthetic Vision

OBJECTIVE

In this lesson you will fly as the pilot-in-command, from the right seat, as you become more comfortable with the training airplane, the training environment and a scenario-based training program.

FLIGHT MISSION

New synthetic vision equipment has just been installed on the airplane. The new equipment will display on the windshield in front of the pilot. The avionics technician needs to make a few adjustments to equipment and needs to sit in the left seat to better see the results after his adjustments. He’s asked you to fly right seat while demonstrating a variety of maneuvers. He’s also asked to conduct landings at _____ airport. You are not “teaching” on this flight, but smooth, precise control inputs will affect the technician’s ability to accurately make needed calibrations.

Prepare for the flight so that you use checklists to perform the preflight inspection, start, run-up, handle communications, and taxi with minimum assistance from the instructor. Prior to takeoff, program the GPS to a waypoint to practice turns around a point. Enter the traffic pattern at _____; set up a stabilized approach, demo a go-around and landings there. Taxi back, program the GPS to help you stay oriented during the return flight. After takeoff, demo maneuvers before entering the traffic pattern at your home airport. Demo a go-around before your final landing. You will handle all radio communications and after landing procedures.

PREFLIGHT DISCUSSION

Preview the flight. Review the manifest and weather.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | P | | | Aircraft airworthiness, certificates and documents |
| | | P | | | Operation of all installed equipment |
| | | P | | | Flight preparation |
| | | P | | | Preflight inspection |
| | | P | | | Passenger safety briefing |
| | | P | | | Precise use of checklists |
| | | P | | | Cockpit management |
| | | P | | | Engine starting and warm up |
| | | P | | | Taxiing, proper use of throttle and brakes |
| | | P | | | Radio procedures and correct phraseology |
| | | P | | | Before takeoff check and engine run up |
| | | P | | | Normal takeoff and climb |
| | R | | | | Short-field takeoff and climb |
| | R | | | | Soft-field takeoff |
| | | P | | | Go-around |
| | R | | | | Turns about a point |
| | | P | | | Stabilized approach |
| | | P | | | Normal landing |
| | R | | | | Soft-field landing |
| | R | | | | Short-field landing |
| | | | M | | After landing procedures |
| | | | M | | Parking and securing |
| | | | M | | Postflight procedures |
| | | P | | | Situational awareness |
| | | | M | | Clearing turns and collision avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Instructor will record notes on the back. Replay the flight: what was good, what should be done different next flight?

ASSIGNMENT

Prepare for cross-country flight.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard.

Your Initials _____ **Date:** ____/____/____

Flight 1.3: Dual Cross-Country Adventure

OBJECTIVE

(4 hour flight, plus destination fun activity.) This flight will pack new experiences into a fun cross-country. You will occupy the right seat on a dual day VFR cross country that includes landings at 3 airports with one airport a straight line distance of at least 100 NMs from the original departure point. Upon landing at the first airport, the instructor will consider recording a complex aircraft endorsement. Returning home will be a night VFR cross-country that includes full-stop landings at 3 airports with one airport a total straight line distance of 100 NMs from the original departure point. However, do not fly home along the same route—you need the experience. Preferably 3 airports that you’ve never flown to before. You are not teaching in the airplane yet, so just concentrate on flying your best.

MISSION

Invite a friend so that the airplane is loaded to near max gross weight. Find a fun destination! Maybe a FAA Safety seminar or a \$100 hamburger. The primary form of navigation will be dead reckoning and pilotage. At night, navigation will include VOR and GPS with radar services, and your instructor will request a light gun signal demonstration. Enroute, the instructor will simulate equipment malfunction for you to deal with. All takeoffs and landings are to be confined area, soft-field or slip-to-landing. If you re-fuel, self-fuel. Estimate your fuel burn before fueling and compare it to actual gallons—because a pro pilot accurately estimates fuel requirements. Plan your flight accordingly, prepare a NavLog and complete all flight preparations so that takeoff is at the appointed time—because that’s what a professional pilot does!

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | | | M | | Aircraft airworthiness |
| | | | M | | Flight preparation |
| | | | M | | Cockpit management |
| | | | M | | Passenger safety briefing |
| | | | M | | Operation of all installed equipment |
| | | P | | | Confined area (short-field) takeoff and climb |
| | | P | | | Soft-field takeoff |
| | | | M | | Pilotage |
| | | | M | | Dead reckoning |
| | | | M | | VOR/GPS navigation |
| | | | M | | Navigation systems and radar services |
| | | | M | | Diversion |
| | | | M | | Lost procedures |
| | | | M | | Use of navigation log |
| | | P | | | Leaning procedures |
| | | | M | | Monitoring flight incl estimates of GS and ETAs |
| | | | M | | Emergency procedures |
| | | | M | | Operations at max gross weight |
| | | P | | | Abnormal procedures |
| | | | M | | Night operations |
| E | | | | | Light gun signal demonstration |
| | | | M | | Stabilized approach |
| | | P | | | Confined area landing |
| | | P | | | Soft-field landing |
| | | P | | | Slip to landing |

Continued...

| | | | | |
|--|--|--|---|--|
| | | | M | After landing procedures |
| | | | M | Parking, securing, and postflight procedures |
| | | | M | Situational awareness |
| | | | M | Collision and runway incursions avoidance |
| | | | M | Positive exchange of flight controls |

POSTFLIGHT CRITIQUE AND ASSESSMENT

List and discuss new, major decisions you made:

Instructor will record notes on back. Replay the flight. Discuss importance of a max gross weight flight.

ASSIGNMENT

Prepare for the next flight. Prepare a lesson briefing to teach slips, turns about a point, and S-turns across a road.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.1: 180-Degree Power-Off Accuracy Landing

OBJECTIVE

In this lesson you will be introduced to the 180-degree power-off accuracy landing while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique. You will also practice your passenger safety briefing.

MISSION

Depending on the traffic at your airport, the instructor may prefer you to navigate to a different local airport where you will be introduced to the 180-degree power-off accuracy landing. If so, then fully prepare to navigate there, enter the traffic pattern and return home, performing all tasks without assistance from the instructor. Practice a takeoff as assigned by instructor.

PREFLIGHT DISCUSSION

- Introduce the maneuver
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | R | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing |
| | | | M | | Use of installed equipment |
| | | | M | | Preflight inspection |
| | | | M | | Cockpit management |
| | | | M | | Use of checklists |
| | | | M | | Start and run up |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before takeoff check and engine run up |
| | | | R | | _____ takeoff |
| | P | | | | 180-degree power-off accuracy landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, situational awareness, and traffic avoidance.

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=TueFqC-vPLU>
2. Refer to *Lesson Plans* to prepare a lesson briefing for 180-degree power-off accuracy landings, normal takeoff, and normal landings
3. Teach your lessons to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.2: Eights-on-Pylons

OBJECTIVE

In this lesson you will be introduced to the eights-on-pylons while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique.

MISSION

You are to select a suitable area/altitude for the performance of the maneuver and determine how to best navigate there. You will handle all aspects of flight preparation and ground tasks. After a takeoff assigned by the instructor and arriving in your practice area, you will be introduced to the maneuvers. Maintain your situational awareness. When instructed to do so, you will fully use all cockpit technology to navigate home while handling all communications. You will perform a landing assigned by the instructor.

PREFLIGHT DISCUSSION

- Introduce the maneuver.
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing |
| | | | M | | Use of installed equipment |
| | | | M | | Preflight inspection |
| | | | M | | Engine starting and run up |
| | | | M | | Cockpit management |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before-takeoff check and engine run up |
| | | P | | | _____ takeoff |
| | R | | | | Eights-on-pylons |
| | | P | | | Use of autopilot and GPS |
| | | | M | | Stabilized approach |
| | | P | | | _____ landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, situational awareness and traffic avoidance.

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=BMdxqJQ9I5M>
2. Use *Lesson Plans* to prepare a lesson briefing on eights-on-pylons, soft-field takeoff, and soft-field landing
3. Teach your lessons to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.3: Steep Turns and Accelerated Stalls

OBJECTIVE

In this lesson you will be introduced to 55-degree steep turns and accelerated stalls while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique.

MISSION

You are to select a suitable area/altitude for the performance of the maneuver and determine how to best navigate there. You will handle all aspects of flight preparation and ground tasks. After a takeoff assigned by the instructor and arriving in your practice area, you will be introduced to the maneuvers. Maintain your situational awareness. When instructed to do so, you will fully use all cockpit technology to navigate home while handling all communications. You will perform a landing assigned by the instructor.

PREFLIGHT DISCUSSION

- Introduce the maneuver
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing |
| | | | M | | Use of installed equipment |
| | | | M | | Preflight inspection |
| | | | M | | Engine starting and run up |
| | | | M | | Cockpit management |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before takeoff check and engine run up |
| | | P | | | _____ takeoff |
| | R | | | | 55-degree steep turns |
| | R | | | | Accelerated stalls |
| | | | M | | Use of autopilot and GPS |
| | | | M | | Stabilized approach |
| | | P | | | _____ landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, situational awareness and traffic avoidance.

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=24LySNN3SCE>
2. Refer to *Lesson Plans* to prepare a lesson briefing on steep turns, short-field takeoff, and short-field landing.
3. Teach your lessons to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.4: Steep Spiral

OBJECTIVE

In this lesson you will be introduced to the steep spiral while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique.

MISSION

You are to select a suitable area/altitude for the performance of the maneuver and determine how to best navigate there. You will handle all aspects of flight preparation and ground tasks. After a takeoff assigned by the instructor and arriving in your practice area, you will be introduced to the maneuvers. Maintain your situational awareness. When instructed to do so, you will fully use all cockpit technology to navigate home while handling all communications. You will perform a landing assigned by the instructor.

PREFLIGHT DISCUSSION

- Introduce the maneuver
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing |
| | | | M | | Use of installed equipment |
| | | | M | | Preflight inspection |
| | | | M | | Engine starting and run up |
| | | | M | | Cockpit management |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before-takeoff check and engine run up |
| | | P | | | _____ takeoff |
| | R | | | | Steep spiral |
| | | | M | | Use of autopilot and GPS |
| | | | M | | Stabilized approach |
| | | P | | | _____ landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management, and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, situational awareness and traffic avoidance.

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=kqLh8TMNtEM>
2. Refer to *Lesson Plans* to prepare a lesson briefing on the steep spiral and slow flight
3. Teach your lessons to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.5: Chandelle

OBJECTIVE

In this lesson you will be introduced to the chandelle while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique.

MISSION

You are to select a suitable area/altitude for the performance of the maneuver and determine how to best navigate there. You will handle all aspects of flight preparation and ground tasks. After a takeoff assigned by the instructor and arriving in your practice area, you will be introduced to the maneuvers. Maintain your situational awareness. When instructed to do so, you will fully use all cockpit technology to navigate home while handling all communications. You will perform a landing assigned by the instructor.

PREFLIGHT DISCUSSION

- Introduce the maneuver
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing |
| | | | M | | Use of installed equipment |
| | | | M | | Preflight inspection |
| | | | M | | Engine starting and run up |
| | | | M | | Cockpit management |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before takeoff check and engine run up |
| | | | M | | _____ takeoff |
| | R | | | | Chandelle |
| | | | M | | Use of autopilot and GPS |
| | | | M | | Stabilized approach |
| | | | M | | _____ landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, coordination, planning, situational awareness and traffic avoidance.

ASSIGNMENT

1. Watch This! <https://www.youtube.com/watch?v=Ml8YI7oj2Q8>
2. Refer to *Lesson Plans* to prepare a lesson briefing on the chandelle and slip to landing.
3. Teach it to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.6: Lazy Eight

OBJECTIVE

In this lesson you will be introduced to the lazy eight while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique.

MISSION

You are to select a suitable area/altitude for the performance of the maneuver and determine how to best navigate there. You will handle all aspects of flight preparation and ground tasks. After a takeoff assigned by the instructor and arriving in your practice area, you will be introduced to the maneuvers. Maintain your situational awareness. When instructed to do so, you will fully use all cockpit technology to navigate home while handling all communications. Flaps have failed, perform a no-flap landing.

PREFLIGHT DISCUSSION

- Introduce the maneuver
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing |
| | | | M | | Use of installed equipment |
| | | | M | | Preflight inspection |
| | | | M | | Engine starting and run up |
| | | | M | | Cockpit management |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before takeoff check and engine run up |
| | | | M | | _____ takeoff |
| | R | | | | Lazy eight |
| | | | M | | Use of autopilot and GPS |
| | | | M | | Stabilized approach |
| | | | M | | No-flap landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, coordination, planning, situational awareness and traffic avoidance.

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=yJb2dYtxfpE>
2. Use *Lesson Plans* to prepare a lesson briefing for the lazy eight and go-around
3. Teach your lessons to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver AND
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.7: Simulated Engine Failure

OBJECTIVE

In this lesson you will be introduced simulated engine failure while flying from the right seat. You are not teaching in the airplane yet, so just concentrate on developing your most precise, smooth flying technique.

MISSION

You are to select a suitable area/altitude for the performance of the maneuver and determine how to best navigate there. You will handle all aspects of flight preparation and ground tasks. After a takeoff assigned by the instructor and arriving in your practice area, you will be introduced to the maneuvers. Maintain your situational awareness. When instructed to do so, you will operate one piece of installed equipment not normally used. Navigate home while handling all communications. You will perform a 180-degree accuracy landing.

PREFLIGHT DISCUSSION

- Introduce the maneuver.
- Review the maneuver setup checklist (*see Appendix page 97*) as it relates to this maneuver
- Review manifest and weather

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety Briefing |
| | | | M | | Installed equipment not normally used _____ |
| | | | M | | Preflight inspection |
| | | | M | | Engine starting and run up |
| | | | M | | Cockpit management |
| | | | M | | Taxiing |
| | | | M | | Runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before takeoff check and engine run up |
| | | | M | | _____ takeoff |
| | R | | | | Simulated engine failure |
| | | | M | | Use of autopilot and GPS |
| | | | M | | Stabilized approach |
| | | | M | | 180-degree power-off accuracy landing |
| | | | M | | After landing |
| | | | M | | Parking and securing |
| | | | M | | Situational awareness, risk management and ADM |
| | | | M | | Scanning and traffic avoidance |
| | | | M | | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuver with emphasis on smoothness, precision, situational awareness, and traffic avoidance.

ASSIGNMENT

1. Watch this! <https://www.youtube.com/watch?v=BzCGwJecR00> This is a review and not an intro to simulated engine failure, but notice CFI's scanning and how he keeps his student involved!
2. Refer to *Lesson Plans* to prepare a lesson briefing on simulated engine failure, equipment malfunctions, emergency equipment and survival gear, and emergency descent.
3. Teach your lessons to the instructor
4. Additional as may be assigned by instructor: _____
5. Prepare for the next flight

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade.

Lesson is complete when:

1. The actual grade is at or higher than the desired completion standard for each maneuver.
2. You have effectively taught on a recording that your instructor has critiqued; you applied the instructor's recommendation to your lesson plan; and organized your lesson plans in your 3-ring binder or expanded file.

Your Initials _____ **Date:** ____/____/____

Flight 2.8: Maneuvers Review

OBJECTIVE

In this lesson you will review each commercial maneuver while occupying the seat you will occupy during the commercial practical exam. Concentrate on developing your most precise, smooth flying technique.

MISSION

You will handle every aspect of the flight. You select a suitable area/altitude for performance of each maneuver and determine how to best navigate there. If it will help to perform your best, consider a quick rest-stop at a nearby airport—remember, you are the pilot-in-command. You are to organize the sequence of maneuvers for an efficient use of flight time. Maintain your situational awareness and continue on a specific heading and altitude transitioning between maneuvers—don't wander.

PREFLIGHT DISCUSSION

Preview the flight. Review manifest and weather.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|--|
| | | | M | | Flight preparation |
| | | | M | | Passenger safety briefing and cockpit management |
| | | | M | | Operation of installed equipment |
| | | | M | | Preflight inspection, engine starting and run up |
| | | | M | | Taxiing, markings and runway incursion avoidance |
| | | | M | | Radio communications and phraseology |
| | | | M | | Before takeoff check and engine run up |
| | | | M | | Traffic patterns |
| | | | M | | Normal takeoff |
| | | | M | | Short-field (confined area) takeoff |
| | | | M | | Soft-field takeoff |
| | | | M | | Eights-on-pylons |
| | | | M | | Chandelles |
| | | | M | | Lazy eights |
| | | | M | | Steep spiral |
| | | | M | | Steep turns |
| | | | M | | Go-around |
| | | | M | | Slow flight |
| | | | M | | Power-off stall |
| | | | M | | Power-on stall |
| | | | M | | Accelerated stall |
| E | | | | | Spin awareness |
| | | | M | | Simulated engine failure |
| | | | M | | Emergency descent |
| | | | M | | Systems and equipment malfunction |
| | | | M | | Emergency equipment and survival gear |
| | | | M | | Normal landing |
| | | | M | | Short-field (confined area) landing |
| | | | M | | Soft-field landing |
| | | | M | | Slip to landing |

Continued...

| | | | | |
|--|--|--|---|---------------------------------------|
| | | | M | 180-degree power-off accuracy landing |
| | | | M | After landing, parking, and securing |
| | | | M | Single pilot resource management |
| | | | M | Scanning and traffic avoidance |
| | | | M | Positive exchange of flight controls |

List and discuss new, major decisions you made:

POSTFLIGHT CRITIQUE AND ASSESSMENT

Replay of maneuvers with emphasis on smoothness, precision, and Commercial Pilot Practical Test Standards.

ASSIGNMENT

Prepare for the next flight.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard for each maneuver.

Your Initials _____ **Date:** ____/____/____

Flight 2.9: Mock Commercial Practical Exam

3 hours oral review, 1.5 hours flight

OBJECTIVE

The objective of this lesson is a complete top-down review of everything as it would be done in a commercial practical exam, including a paperwork and eligibility review, oral exam, flight test and debrief.

MISSION

If practical, an instructor other than your primary instructor should be used in this flight to role play as the examiner. Ideally, he should be a very-experienced, senior instructor. Call the examiner to obtain your assignment. Be sure to ask the examiner's weight for your load manifest. Prepare a mock 8710 Form and endorsements for a practical exam. This is a long day, plan accordingly.

Gather your tools and materials and pack your bag the night before—you CAN'T forget anything. Bring everything with you. You ARE allowed to make an occasional peak at reference materials—if you have them.

Bring snacks. Bring a bottle of water into the airplane for quick sips. (Meet those basic needs!) Present yourself as a testing candidate!

CONTENT

Make a copy of the "Examiner's Practical Checklist" from the Commercial Pilot PTS Book. Check off items as they are conducted and make generous notes in the margins.

POSTFLIGHT CRITIQUE AND ASSESSMENT

The postflight is THE most important part of this lesson. No one escapes this experience without a few small needed corrections. Discuss with the examiner the what, when, why, how and to what extent there may be a lacking in any aspect of your performance.

Your Initials _____ **Date:** ____/____/____

Flight 3.1: Effective Instruction...In the Cockpit, On the Ground

OBJECTIVE

A definition: effective instruction means that you communicate using general rules of good human relations; that you are able to demonstrate the assigned maneuver/procedure(s) to commercial pilot standards while delivering an explanation that is clear, concise, and appropriate for the customer’s level of training. Your instruction must be technically correct and complete—*without prompting*. You apply the fundamentals of instruction to develop the customer’s full potential. You recognize and correct common errors. Additionally, you supervise customer’s piloting-technique, minimizing instructional surprises, while maintaining safe flight, including ongoing, proactive situational awareness and traffic avoidance. I know...whew...it’s a lot! Let’s get started,

MISSION

Your instructor will play the role of a lesson #1 student-pilot who has never been in a small plane before and is unaware of aviation terminology. Your lesson begins in helping the student to board the plane for an intended flight lesson (but you will not takeoff). In the cockpit you will deliver very basic explanations for him to conduct engine start, run up, use of checklists, making radio calls, taxi to the runway, and postflight. He will perform to the best of his ability, but only to the extent that you tell him exactly what to do. The student-pilot must be as hands-on as is practical—you instruct him on what to do and he does it, he’s not a spectator—but expect him to make many errors. You’ll gently correct errors. You’ll teach in the airplane in a fashion that does not interfere with ATC’s ability to communicate with you. You’ll use “dog commands” (see Appendix page 111). Don’t miss any unplanned instructional opportunities that may show themselves. You should be teaching about 40 seconds out of a minute but recognize when a sterile cockpit is appropriate. After “the flight” you will prepare a logbook entry and recommend relevant self-study appropriate to this customer’s level of training.

PREFLIGHT DISCUSSION

- Review “Dog Commands” in the Appendix (page 111)
- Review “Ways to say Good Job” in the Appendix (page 110)
- Preview the lesson as you have planned it, with the instructor, incorporating recommendations the instructor may make. Ask any questions of your instructor now, once at the plane, he is in the role of a customer and will not be equipped to answer questions.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | R | | | | Lesson planning |
| | R | | | | Dog commands |
| | R | | | | Customer involvement and hands-on |
| | R | | | | Student supervision |
| | | | | | Teaching maneuvers |
| | | P | | | Engine start |
| | | P | | | Use of checklists |
| | | P | | | Run up |
| | | P | | | Taxi |
| | | P | | | Postflight procedures |
| | R | | | | Recognition and incorporation of unplanned learning opportunities |
| | | P | | | Situational awareness |
| | | P | | | Risk management |
| | R | | | | Delivering effective instruction |
| | R | | | | Proper training documentation/logbook entry |

What decisions did you inspire your customer to make?

POSTFLIGHT CRITIQUE AND ASSESSMENT

- Replay of lesson
- Replay of the elements of effective instruction used in this lesson
- Replay of risk management, situational awareness, and traffic avoidance
- Replay use of proper aircraft specific procedures, checklists, or speeds, etc.

ASSIGNMENT

Prepare for next flight.

COMPLETION

The desired completion standard for this flight is indicated for each maneuver, in the box above. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard for each maneuver.

Your Initials _____ **Date:** ____/____/____

Flight 3.2: Effective Instruction...In Flight

OBJECTIVE

Deliver effective instruction in flight.

MISSION

Your instructor will play the role of a commercial pilot candidate but he will not be manipulating the controls. You will demonstrate and explain commercial maneuvers. You will organize the sequence of training tasks for efficient use of flight time. During flight, you will deliver a clear and concise explanation of each maneuver. Include how to properly setup for the maneuver and step-by-step how to conduct the maneuver, as well as where the customer should be looking and what he should be seeing throughout the maneuver, how to think ahead for the next element in the maneuver, techniques in how he will maintain situational awareness and traffic avoidance through out and how to recover at the completion of the maneuver. Use “dog commands” (see Appendix page 111). Do NOT plan a flight where maneuvers are completed far away from the airport that results in wasted straight and level time returning to the airport. Use available technology as appropriate, including the autopilot if you need a break.

PREFLIGHT DISCUSSION

Preview the lesson as you have planned it, with the instructor, incorporating recommendations the instructor may make. Ask any questions of your instructor now, once at the plane, he is in the role of a customer and will not be equipped to answer questions.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | | P | | | Lesson planning |
| | | P | | | Dog commands |
| | | P | | | Customer involvement and hands-On |
| | | P | | | Maneuver setup |
| | | P | | | Student supervision |
| | | | | | Teaching maneuvers |
| | | P | | | Soft-field Takeoff |
| | | P | | | Chandelle |
| | | P | | | Lazy eight |
| | | P | | | Eights-on-pylons |
| | | P | | | Steep spiral |
| | | | | | 180-degree power-off accuracy landing |
| | R | | | | Recognition and incorporation of unplanned learning opportunities |
| | | P | | | Situational awareness |
| | | P | | | Risk management |
| | R | | | | Delivering effective instruction |
| | R | | | | Proper training documentation/logbook entry |

What decisions did you inspire your customer to make?

POSTFLIGHT CRITIQUE AND ASSESSMENT

- Replay of lesson
- Replay of the elements of effective instruction used in this lesson
- Replay of risk management, situational awareness and traffic avoidance
- Replay use of proper aircraft specific procedures, checklists, or speeds, etc.

ASSIGNMENT

Prepare for next flight.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an “X” in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard for each maneuver.

Your Initials _____ **Date:** ____/____/____

Flight 3.3: Effective Instruction...A Complete Lesson

OBJECTIVE

In this lesson you will hone your skills at delivering effective instruction by delivering a typical lesson including a preflight briefing followed by a flight and de-briefing.

MISSION

Your instructor will play the role of a customer. He is a certificated private pilot who has not flown in the past ten years—thus he is aware but not functional around the airplane. The customer should be flying under your direction. The customer will perform to the best of his ability, but only to the extent that you tell him exactly what to do. You are to prepare an effective lesson. You must provide a preflight briefing. It must inspire the pilot to higher thinking skills. It must apply pertinent aeronautical knowledge. You will supervise the pilot conducting preflight inspection, start, run-up; radio communications, and taxi. You must recognize and correct his errors. During flight, you must provide opportunities for the customer to use appropriate decision making skills. After takeoff, you must choose whether to allow the pilot to attempt the maneuver first or if you will demonstrate it first. On the return flight, incorporate available technology as appropriate. Supervise the pilot performing situational awareness on airspace, weather, terrain, traffic, and obstacle clearances. Don't miss any unplanned opportunities to instruct. You should be teaching about 40 seconds out of a minute but recognize when a sterile cockpit is appropriate. After the flight you will conduct an evaluation. It must be fair and accurate, but positive in nature. Record an entry for the logbook and assign relevant homework.

PREFLIGHT DISCUSSION

Preview the lesson as you have planned it, with the instructor, incorporating recommendations the instructor may make. Ask any questions of your instructor now, once at the plane, he is in the role of a customer and will not be equipped to answer your questions.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | | | M | | Lesson planning |
| | | | M | | Dog commands |
| | | | M | | Customer involvement and hands-on |
| | | | M | | Student supervision |
| | | | M | | Preflight briefings |
| | | | | | Teaching maneuvers |
| | | | M | | Confined area takeoff |
| | | | M | | Power-on stalls |
| | | | M | | Slow flight |
| | | | M | | Steep turn |
| | | | M | | Confined area landing |
| | | | M | | Recognition and incorporation of unplanned learning opportunities |
| | | | M | | Incorporating technology |
| | | | M | | Postflight critique and assessment |
| | | | M | | Situational awareness |
| | | | M | | Risk management |
| | | | M | | Delivering effective instruction |
| | | | M | | Proper training documentation/logbook entry |

What decisions did you inspire your customer to make?

POSTFLIGHT CRITIQUE AND ASSESSMENT

- Replay of lesson
- Replay of the elements of effective instruction used in this lesson
- Replay of risk management, situational awareness and traffic avoidance
- Replay use of proper aircraft specific procedures, checklists, or speeds, etc.

ASSIGNMENT

Prepare for next flight.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard for each maneuver.

Your Initials _____ **Date:** ____/____/____

Flight 3.4: Supervising a Student Pilot...Initial Solo

OBJECTIVE

In this lesson you will learn to direct and supervise a flying student-pilot. You will become more comfortable preventing instructional surprises and determining which mistakes are safe enough for a student-pilot to correct without you taking the controls away from him. Additionally, you will determine if a student-pilot is prepared for initial solo.

MISSION

Your student-pilot is preparing for initial solo. Review the training record given to you to determine his eligibility for initial solo.

In this lesson, your instructor is in the role of a student-pilot and you are role playing as the instructor. You should not be manipulating the controls. Your student-pilot should be flying under your direction. You will supervise him managing the flight from startup to shutdown. Preparing to solo—the flight is probably contained to the traffic pattern, practicing takeoffs, and landings. You must recognize and correct his errors—expect a few. Your student-pilot is subject to stress, anxiety, and unexpected defense mechanisms. You must deal with them.

You must correctly decide if the pilot is eligible and is adequately prepared to be PIC and to conduct a safe initial-solo flight based on your observations of today's flight. After the flight you will lead an evaluation. It must be fair and accurate, but positive in nature. Record proper logbook entries and endorsements for initial solo, but only if you consider him ready.

PREFLIGHT DISCUSSION

Preview the lesson as you have planned it, with the instructor, incorporating recommendations the instructor may make. Ask any questions of your instructor now, once at the plane, he is in the role of a customer and will not be equipped to answer your questions.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | | | M | | Lesson planning |
| | | | M | | Dog commands |
| | | | M | | Customer involvement and hands-on |
| | | | M | | Student supervision |
| | | P | | | Initial solo eligibility |
| | | | M | | Recognition and incorporation of unplanned learning opportunities |
| | | P | | | Relieving student stress, anxiety, hazardous attitudes and defense mechanisms |
| | | | M | | Postflight critique and assessment |
| | | | M | | Situational awareness |
| | | | M | | Risk management |
| | | | M | | Delivering effective instruction |
| | | | M | | Proper training documentation/logbook entry |

What decisions did you inspire your customer to make?

POSTFLIGHT CRITIQUE AND ASSESSMENT

- Replay of lesson
- Replay of the elements of effective instruction used in this lesson
- Replay of risk management, situational awareness and traffic avoidance
- Replay use of proper aircraft specific procedures, checklists, or speeds, etc.

ASSIGNMENT

Prepare for next flight.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard for each maneuver.

Your Initials _____ **Date:** ____/____/____

Flight 3.5: Supervising a Student Pilot...Faulty Landings

OBJECTIVE

In this lesson you will gain additional experience in directing and supervising a student-pilot. You will become more comfortable preventing instructional surprises and determining which mistakes are safe enough for a student-pilot to correct without you taking the controls.

MISSION

In this lesson, your instructor is in the role of a student-pilot and you are role playing as the instructor. You should not be manipulating the controls. Your student-pilot will be flying under your direction. This flight is contained to the traffic pattern, practicing takeoffs and landings. The student-pilot will make faulty approaches which you must recognize, analyze and correct. Maintaining safety of flight is your first priority—but only take the controls to the extent necessary. Your student-pilot is subject to unexpected stress, anxiety, hazardous attitudes and defense mechanisms. You must deal with them. Motivate him with positive reinforcement. After the flight you will lead an evaluation. It must be fair and accurate, but positive in nature. Record proper logbook entries and assign helpful self-study opportunities for the student-pilot to complete.

PREFLIGHT DISCUSSION

Preview the lesson as you have planned it, with the instructor, incorporating recommendations the instructor may make. Ask any questions of your instructor now, once at the plane he is in the role of a customer and will not be equipped to answer your questions.

CONTENT AND EVALUATION

| E | R | P | M | NO | |
|---|---|---|---|----|---|
| | | | M | | Lesson planning |
| | | | M | | Dog commands |
| | | | M | | Customer involvement and hands-on |
| | | | M | | Student supervision |
| | | | M | | Recognition and correcting student errors |
| | | | M | | Recognition and incorporation of unplanned learning opportunities |
| | | | M | | Relieving student stress, anxiety, hazardous attitudes and defense mechanisms |
| | | | M | | Postflight critique and assessment |
| | | | M | | Situational awareness |
| | | | M | | Risk management |
| | | | M | | Delivering effective instruction |
| | | | M | | Proper training documentation/logbook entry |

What decisions did you inspire your customer to make?

POSTFLIGHT CRITIQUE AND ASSESSMENT

- Replay of lesson
- Replay of the elements of effective instruction used in this lesson
- Replay of risk management, situational awareness and traffic avoidance
- Replay use of proper aircraft specific procedures, checklists, or speeds, etc.

ASSIGNMENT

Prepare for next flight.

COMPLETION

The desired completion standard for this flight is indicated in the box above, for each maneuver. The instructor should place an "X" in the column adjacent to each maneuver, representing the actual performance grade. Lesson is complete when the actual grade is at or higher than the desired completion standard for each maneuver.

Your Initials _____ **Date:** ____/____/____

Flight 3.6: Mock Flight Instructor Practical Exam

6 hours oral review, 1.5 hours flight

OBJECTIVE

The objective of this lesson is to complete a top-down review of everything as it would be done in an initial flight instructor practical exam, including a paperwork and eligibility review, oral exam, flight test, and debrief.

MISSION

If practical, an instructor other than your primary instructor should be used in this flight to role play as the examiner. Ideally, he should be a very-experienced, senior instructor. Call the “examiner” to obtain your assignment. Be sure to ask the examiner’s weight for your load manifest. Correctly complete a mock 8710 Application and a practical exam yourself. This is a long day; plan accordingly.

Gather your tools and materials and pack your bag the night before—you CAN’T forget anything. Bring everything with you. You ARE allowed to make an occasional peak at reference material.

Bring snacks. Bring a bottle of water into the airplane for quick sips—you’re talking so much—you WILL go dry. (Meet those basic needs!) Present yourself as a testing candidate!

CONTENT

Make a copy of the “Examiner’s Practical Checklist” from the Flight Instructor PTS Book. Check off items as they are conducted and make generous notes in the margins.

POSTFLIGHT CRITIQUE AND ASSESSMENT

The postflight is THE most important part of this lesson. No one escapes this experience without a few small corrections being recommended. But know that the corrections usually aren’t big ticket things but they are in the finer details. Details matter. Take the time to really understand the what, when, why, how, and to what extent there may be a lacking in any aspect of your performance.

Your Initials _____ **Date:** ____/____/____

Flight 3.7: Final Polish

OBJECTIVE

This is an optional lesson to be conducted as needed. The objective is to correct deficiencies found in the mock practical exam. Although it is listed here as a “flight lesson” it could instead be practice teaching or ground review.

MISSION

As recommended by the examiner. Present yourself as a work-ready instructor!

CONTENT

As recommended by the examiner.

POSTFLIGHT CRITIQUE AND ASSESSMENT

The postflight is THE most important part of this lesson. Details matter. Tiny, picky details is what separates the professional work-ready instructor from the average guy. Take care of the small details and the big things will take care of themselves.

Your Initials _____ **Date:** ____/____/____

APPENDIX

Training Plan

Days 1 through 30.

| | | | | | | |
|--|--|--|---|--|--|------------------------------------|
| <p>1</p> <p>Ground 1 Ground 2 <i>Break</i> Ground 3 Work on Assignments</p> | <p>2</p> <p>Present Ground 1 assignment to instructor <i>Break</i> Flight 1.1 Work on Assignments</p> | <p>3</p> <p>Present Ground 2 assignment to instructor <i>Break</i> Ground 4 Ground 5 Work on Assignments</p> | <p>4</p> <p>Present Ground 3 assignments to instructor <i>Break</i> Ground 6 Ground 7 Work on Assignments</p> | <p>5</p> <p>Present Ground 4 assignments to instructor <i>Break</i> Ground 8 Ground 9 Work on Assignments</p> | <p>6</p> <p>Flight 1.2 Work on Assignments</p> | <p>7</p> <p>OFF</p> |
| <p>8</p> <p>Present Ground 5 assignments to instructor <i>Break</i> Ground 10 Ground 11 Work on Assignments</p> | <p>9</p> <p>Present Ground 6 assignments to instructor <i>Break</i> Ground 12 Ground 13 Work on Assignments</p> | <p>10</p> <p>Present Ground 7 assignments to instructor <i>Break</i> Ground 14 Ground 15 Prepare for Flight 1.3</p> | <p>11</p> <p>Other flights as may be necessary to meet eligibility requirements Flight 1.3 (<i>Day and Night X/C</i>)</p> | <p>12</p> <p>Sleep late after night flight Present Ground 8 assignments to instructor <i>Held in reserve</i></p> | <p>13</p> <p>Other flights as may be necessary to meet eligibility requirements <i>else</i> OFF</p> | <p>14</p> <p>OFF</p> |
| <p>15</p> <p>Present Ground 9 assignments to instructor <i>Break</i> Flight 2.1 Work on Assignments</p> | <p>16</p> <p>Present Ground 10 assignments to instructor <i>Break</i> Flight 2.2 Work on Assignments</p> | <p>17</p> <p>Present Ground 11 assignments to instructor <i>Break</i> Flight 2.3 Work on Assignments</p> | <p>18</p> <p>Ground 16 Ground 17 <i>Break</i> Flight 2.4 Work on Assignments</p> | <p>19</p> <p>Present Ground 12 assignments to instructor <i>Held in reserve</i> Catch up as necessary from possible delays</p> | <p>20</p> <p>Other flights as may be necessary to meet eligibility requirements <i>else</i> OFF</p> | <p>21</p> <p>OFF</p> |

| | | | | | | |
|---|--|--|---|--|---|------------------------------------|
| <p>22</p> <p>Present Ground 14 and 15 assignments to instructor</p> <p>Work on Assignments</p> | <p>23</p> <p>Present Ground 6 assignments to instructor</p> <p><i>Break</i></p> <p>Flight 2.5</p> <p>Work on Assignments</p> | <p>24</p> <p>Present Ground 17 assignments to instructor</p> <p>As may be assigned by instructor</p> <p>Work on Assignments</p> | <p>25</p> <p>Present Flight 2.1 assignments to instructor</p> <p><i>Break</i></p> <p>Flight 2.6</p> <p>Work on Assignments</p> | <p>26</p> <p>Present Flight 2.2 assignments to instructor</p> <p><i>Held in reserve</i></p> | <p>27</p> <p>Other flights as may be necessary to meet eligibility requirements</p> <p><i>else</i></p> <p>OFF</p> | <p>28</p> <p>OFF</p> |
| <p>29</p> <p>Present Flight 2.3 assignments to instructor</p> <p><i>Break</i></p> <p>Flight 2.7</p> <p>Work on Assignments</p> | <p>30</p> <p>Present assignments from Flight 2.4 to instructor</p> <p><i>Break</i></p> <p>Flight 2.8</p> <p>Work on Assignments</p> | <p>31</p> <p>As may be assigned by instructor</p> <p><i>Break</i></p> <p>Flight 2.8</p> <p>Work on Assignments</p> | <p>32</p> <p>Present assignments from Flight 2.5, 2.6 and 2.7 to instructor</p> <p>Work on Assignments</p> | <p>33</p> <p>Held in reserve</p> | <p>34</p> <p>OFF</p> | <p>35</p> <p>OFF</p> |
| <p>36</p> <p>Flight 2.9</p> <p><i>Break</i></p> <p>As may be assigned by instructor</p> <p>Work on Assignments</p> | <p>37</p> <p>As may be assigned by instructor</p> | <p>38</p> <p>Commercial Pilot Checkride</p> | <p>39</p> <p>Ground 18</p> <p>Ground 19</p> <p>Work on Assignments</p> | <p>40</p> <p>Ground 20</p> <p>Ground 21</p> <p>Work on Assignments</p> | <p>41</p> <p>OFF</p> | <p>42</p> <p>OFF</p> |
| <p>43</p> <p>Flight 3.1</p> <p>Ground 22</p> <p>Work on Assignments</p> | <p>44</p> <p>Flight 3.2</p> <p>Ground 23</p> <p>Work on Assignments</p> | <p>45</p> <p>Flight 3.3</p> <p>As assigned by instructor</p> <p>Work on Assignments</p> | <p>46</p> <p>Flight 3.4</p> <p>As assigned by instructor</p> <p>Work on Assignments</p> | <p>47</p> <p><i>Held in reserve</i></p> | <p>48</p> <p>OFF</p> | <p>49</p> <p>OFF</p> |

| | | | | | | |
|--|--|--|---|--|------------------------------------|------------------------------------|
| <p>50</p> <p>Flight 3.5</p> <p>As assigned by instructor</p> <p>Work on Assignments</p> | <p>51</p> <p>Flight 3.6</p> <p>As assigned by instructor</p> <p>Work on Assignments</p> | <p>52</p> <p>Flight 3.7</p> <p>As assigned by instructor</p> <p>Work on Assignments</p> | <p>53</p> <p>Logbook review, paperwork and last minute questions</p> | <p>54</p> <p><i>Held in reserve</i></p> | <p>55</p> <p>OFF</p> | <p>56</p> <p>OFF</p> |
| <p>57</p> <p>Initial Instructor Checkride</p> | <p>58</p> <p><i>Held in reserve</i></p> | <p>59</p> <p><i>Held in reserve</i></p> | <p>60</p> <p><i>Held in reserve</i></p> | | | |

Don't panic. We will spend the most time where you need the most help. We don't expect the schedule to work exactly as noted, rather it's a flight plan to monitor and tweak as necessary. A lot of extra time is built in, there's no reason to feel rushed. Concentrate on meeting goals weekly s rather than daily and you'll be fine!

Training Budget

If you've been involved with flight training for a long time, you know that most syllabii understate the amount of time to complete a lesson. When you see "Review Regulations—1.0 hour" you know it's not going to happen.

This syllabus provides realistic allotments of time for lesson completion. Additionally, time has been allocated for self-study assignments. That way, you can budget your time efficiently.

Let's talk money. How much will training cost today ____/____/____?

____ Hours with instructor on the ground..... \$_____ per hour = \$_____

____ Hours with instructor in the air \$_____ per hour = \$_____

____ Hours airplane rental \$_____ per hour = \$_____

Allotment for materials/supplies \$_____

____ Aircraft rental for checkride \$_____ per hour = \$_____

(Most checkrides are less than 2 hours. Do you have to fly somewhere to see the examiner?)

Examiner's fee(s) \$_____

Other: _____ \$_____

Taxes \$_____

Total \$_____

(But wait, the total is not really your total. You knew that, right?)

By this stage in your aviation experience, you know that life will get in the way of training and that a long layoff can set your training back. It's also possible that time or money constraints simply do not allow for a full-time, consistent training schedule. That happens, so we plan on it. Generally speaking, the longer timeframe you spread out training, the more it costs because you forget the finer details. That means the instructor must refresh your knowledge and or proficiency...and that means additional hours...and that's more money.

This syllabus is most efficient when completed within 60 days. However, it easily accommodates part-time training by scaling back the number of training hours per week. If you can complete it faster, fine, but if you take longer, it may increase costs. As a starting point to plan your budget. If you can complete training in 30 days you probably won't need all the ground hours allocated. But don't rush it, it takes time for the material to sink in.

If completed in 30 days, deduct 5% off the total..... \$_____

If you can complete training in 90 days, add 5% to the total \$_____

If you can complete training in 120 days, add 15% to the total \$_____

If you can complete training in 180 days, add 25% to the total \$_____

Now, you see how your final cost to certification is aligned with consistent and timely lessons. So it's up to you. You control the cost.

Client

Instructor

Training Agreement

for _____ Course

Enrolled on ____/____/____

_____, the instructor, promises to:

1. Provide a best estimate of costs, based on a specific training plan and to inform client when deviations become apparent.
2. Follow the curriculum.
3. Plan each training session to maximize progress and learning opportunities.
4. Schedule adequate time for a thorough briefing before and after each flight.
5. Respond to client needs in length of lesson for comfort and to meet time and financial constraints.
6. No surprises: to conduct the flight as briefed except as needed to accommodate unforecasted weather, unexpected aircraft malfunctions or client needs.
7. Assess client's performance fairly and accurately, but also positively for purposes of improving performance.
8. Maintain client training records in a legal manner.
9. Maintain confidentiality in client information including progress and performance.
10. Maintain my proficiency in the skill and knowledge being trained.

_____, the client, promises to:

1. Participate in making a specific and realistic training plan. Commit to the training plan, barring unforeseen circumstances.
2. Acknowledge that deviating from the training plan will alter the training budget.
3. Fully disclose medical conditions that may affect safety of flight or changes in my medical condition that may occur during my training, including the need for OTC medications.
4. Fully prepare for each flight, recognizing that preparation may require longer than the flight.
5. Complete homework and other self-study assignments to the best of my ability.
6. Speak up—be proactive in seeking out assistance when needed.
7. Honor limitations, solo or otherwise, that the instructor records in my training records, recognizing that they are for my safety.
8. Act in a responsible, mature, and professional demeanor when at the airport.

Training Summary Chart

| | Read It | Discussed It | Taught It (GND) | Did It | Taught It (FLT) | Met FAA Standards | Work-Ready | Notes |
|---|---------|--------------|-----------------|--------|-----------------|-------------------|------------|-------|
| Special Emphasis Areas (not covered elsewhere) | | | | | | | | |
| Positive aircraft control | | | | | | | | |
| Positive exchange of flight controls | | | | | | | | |
| Single-pilot resource management | | | | | | | | |
| Checklist usage | | | | | | | | |
| Spin awareness | | | | | | | | |
| Aviation security | | | | | | | | |
| Fundamentals of Instruction | | | | | | | | |
| Human behavior and communication | | | X | X | X | | | |
| The learning process | | | X | X | X | | | |
| The teaching process | | | X | X | X | | | |
| Assessment and critique | | | X | X | X | | | |
| Instructor responsibilities & procedures | | | X | X | X | | | |
| Techniques of flight instruction | | | X | X | X | | | |
| Risk management | | | X | X | X | | | |
| Technical Subject Areas | | | | | | | | |
| Aeromedical factors | | | | | | | | |
| Runway incursion avoidance | | | | | | | | |
| Visual scan/collision avoidance | | | | | | | | |
| Principles of flight | | | | | | | | |
| Airplane flight controls | | | | | | | | |
| Airplane weight and balance | | | | | | | | |
| Navigation and flight planning | | | | | | | | |
| Night operations | | | | | | | | |
| High altitude operations | | | | | | | | |
| 14 CFR and publications | | | | | | | | |
| National airspace systems | | | | | | | | |
| Navigation systems and radar services | | | | | | | | |
| Log entries and endorsements | | | | | | | | |
| Preflight Preparations | | | | | | | | |
| Certificates and documents | | | | | | | | |
| Weather information | | | | | | | | |
| Operation of systems and POH review | | | | | | | | |
| Performance and limitations | | | | | | | | |
| Airworthiness requirements | | | | | | | | |
| Preflight Procedures | | | | | | | | |
| Preflight inspection | | | | | | | | |
| Cockpit management | | | | | | | | |
| Engine starting | | | | | | | | |
| Taxiing | | | | | | | | |
| Before-takeoff check | | | | | | | | |
| Aiport Operations | | | | | | | | |
| Radio communication and ATC light signals | | | | | | | | |
| Traffic patterns | | | | | | | | |
| Airport/markings | | | X | | | | | |

Continued...

| | | | | | | | |
|---|--|--|---|--|---|--|--|
| Takeoffs, Landings, and... | | | | | | | |
| Normal/WX takeoff and climb | | | | | | | |
| Short-field takeoff | | | | | | | |
| Soft-field takeoff | | | | | | | |
| Normal/WX approach and landing | | | | | | | |
| Slip to a landing | | | | | | | |
| Go-around | | | | | | | |
| Short-field approach and landing | | | | | | | |
| Soft-field approach and landing | | | | | | | |
| Power-off 180° accuracy landing | | | | | | | |
| Fundamentals of Flight | | | | | | | |
| Straight and level flight | | | | | | | |
| Level turns | | | | | | | |
| Climbs and climbing turns | | | | | | | |
| Descents and descending turns | | | | | | | |
| Performance Maneuvers | | | | | | | |
| Steep turns | | | | | | | |
| Steep spirals | | | | | | | |
| Chandelles | | | | | | | |
| Lazy eights | | | | | | | |
| Ground Reference Maneuvers | | | | | | | |
| Rectangular course | | | | | | | |
| S-turns across a road | | | | | | | |
| Turns around a point | | | | | | | |
| Eights-on-pylons | | | | | | | |
| Slow Flight, Stalls, and Spins | | | | | | | |
| Maneuvering during slow flight | | | | | | | |
| Power-on stalls | | | | | | | |
| Power-off stalls | | | | | | | |
| Accelerated maneuver stalls | | | | | | | |
| Cross-controlled stalls (<i>demo</i>) | | | X | | X | | |
| Elevator trim stalls (<i>demo</i>) | | | X | | X | | |
| Secondary stalls (<i>demo</i>) | | | X | | X | | |
| Spins | | | | | | | |
| Basic Instrument Maneuvers | | | | | | | |
| Straight and level flight | | | | | | | |
| Constant airspeed climbs | | | | | | | |
| Constant airspeed descents | | | | | | | |
| Turns to headings | | | | | | | |
| Recovery from unusual attitudes | | | | | | | |
| Emergency Operations | | | | | | | |
| Emergency approach and landing | | | | | | | |
| Systems and equipment malfunctions | | | | | | | |
| Emergency equipment/survival gear | | | | | | | |
| Emergency descent | | | | | | | |
| Postflight Procedures | | | | | | | |

Training Manifest

PILOT

- Preflight Risk Check Completed
- Safety/Emergency Gear On Board

STUDENT SOLO FLIGHT ONLY—

- Student Limitations Compiled With
- FAR Student Solo Endorsements

WEIGHT AND BALANCE

| | WEIGHT | X | ARM | = | MOMENT | |
|-----------------------|-----------------------|---|-----|---|--------|-----------------------------------|
| Basic Empty Weight | | | | | | |
| Front Seat Passengers | | | | | | |
| Rear Seat Passengers | | | | | | |
| Baggage Area 1 | | | | | | |
| Baggage Area 2 | | | | | | |
| Gallons | | | | | | |
| Other | | | | | | |
| Takeoff Weight | | | | | | CG |
| Fuel Burn Weight | | | | | | |
| Landing Weight | | | | | | CG |
| Weight Limits | Max Ramp _____ lbs | | | | | C.G. Limits Fwd _____" Aft _____" |
| | Max Takeoff _____ lbs | | | | | |
| | Bag Area 1 _____ lbs | | | | | |
| | Bag Area 2 _____ lbs | | | | | |

WEATHER 91.103

- Reports
- Forecasts
- NOTAMS
- TFRs
- ATC Delays

Date _____/_____/_____ N _____

Pilot _____ CFI (if dual) _____

INSPECTION STATUS 91.7

100-Hr Inspection Due @ Tach _____

Engine Start Tach - _____

Hours Available = _____

- Reviewed Inspection Status, AD Compliance and Discrepancy Log

FUEL REQUIRED 91.103

Altitude _____ Temp Aloft _____ %HP _____ RPM _____ TAS _____ GPH _____

Engine Start, Taxi and Takeoff _____ gal

Climb _____ Minutes _____ NMs _____ gal

Enroute _____ hrs x _____ gph _____ gal

Approach _____ hrs x _____ gph _____ gal

To Alternate _____ hrs x _____ gph _____ gal

Personal Reserve _____ hrs x _____ gph _____ gal

Total Gal Fuel Required _____

Gal Fuel on Board _____

| TAKEOFF PERFORMANCE | LANDING PERFORMANCE |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> 50' obstacle | <input type="checkbox"/> No obstacle |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Takeoff Weight | Takeoff Weight |
| Pressure Altitude | Pressure Altitude |
| Surface Temp | Surface Temp |
| Density Altitude | Density Altitude |
| Headwind Kts | Crosswind Kts |
| Headwind Kts | Headwind Kts |
| Takeoff Distance | Takeoff Distance |
| Runway Length | Runway Length |

Maneuver Setup Checklist

Commercial pilot maneuvers are very demanding, requiring precise control of the airplane. For that reason, taking a few minutes to assure the airplane is in the right place for the maneuver, configured properly for the maneuver and that the area has been cleared of traffic will greatly improve your success.

To become disciplined in setting up properly for a maneuver, design a checklist. See the sample below. Your checklist may vary according to your training airplane, but a set-up checklist should look something like this. Print the checklist and carry with you in the plane. Execute this checklist prior to starting maneuvers.

- Situational awareness, clear of (or maneuver away from) possible
 - airspace incursion
 - congested ground areas
 - cloud clearances
 - obstacles or rising terrain
- Airplane configuration
 - Autopilot = OFF
 - Fuel—rich/proper tank
 - Auxiliary fuel pump = ON
 - Maneuver start airspeed (training $V_A = 110$ KIAS)
 - Flaps as appropriate
 - Gear as appropriate
- Achieve desired starting altitude
- Below 1,500 AGL—choose emergency landing area
- Ground reference maneuvers—turn downwind first, then choose references
- Clearing turns
- Heading, airspeed, and altitude
- Take a breath, relax
- Begin

Selling Your Airplane—Assignment

NOTE: Before this flight, you will have been introduced to the airplane and to the elements of its preflight inspection.

This information will help you prepare for your first flight. We know you're not sure how all of this works and we know you may be a bit nervous and we understand that you want to do your best. So, here goes.

You are expected to fly as the PIC in a plane that, perhaps, you've been in before. It's OK, the instructor is there to help you over the hump—but your mindset must not be that you are a “student.” The instructor is not going to lead you thru every step of the flight. Starting right now today, you are a self-sufficient, professionally—minded, fully-capable pilot.

1. Grab a local sectional. Find the airport the flight instructor assigned to you. Become familiar with the airspace, terrain, obstacles, and other nearby airports to help in situational awareness. If needed, free online charts are available at www.skyvector.com
2. Locate your training airport's information and become familiar with runways, elevation, frequencies, and other useful in-flight data you will need to act as pilot-in-command. Free online airport information is available at www.airnav.com. Obtain a weather briefing, determine landing distances, fuel requirements, and calculate a weight and balance.
3. If you don't routinely conduct an effective passenger safety briefing, check this out: <https://www.faa.gov/files/gslac/library/documents/2007/Jan/14082/6.5%20Passenger%20Safety%20Briefing%20JanFeb07.pdf>

Specifically:

1. What radio frequencies will you need and with whom will you communicate?
2. What heading and altitude will you inform ATC during your departure clearance?
3. In what order should maneuvers be demonstrated to be most efficient with aircraft hobbs time? You may practice some maneuvers in flight to the nearby airport and the remainder during the return flight. Remember: flight training is expensive—be efficient.
4. What airspeed, power and mixture settings will you use for maneuvers, cruise, and approaches?
5. How will you maintain your situational awareness during maneuvers?
6. How will you navigate to your nearby airport? Yes! It's OK to follow roads and rivers.
7. How will you enter the traffic pattern? What is the traffic pattern altitude? When will you begin descent from maneuvering altitude to traffic pattern altitude?
8. If appropriate, will you conduct touch and goes? Stop and goes? Stop and taxiback? What are the benefits of each?
9. If the aircraft is equipped, can you use the GPS to your advantage? Yes! It's allowed.
10. If the aircraft is equipped, can you use the autopilot, to your advantage? Yes! It's allowed.
11. Are there online tutorials or resources to help you become familiar with installed equipment?
12. How will you navigate returning to the home airport?
13. If appropriate, determine at what point during the flight you will obtain ATIS and contact ATC.

Be prepared to inform the instructor HOW you will conduct your flight and justify WHY you think your decisions are good. Most likely, there is more than one right answer—he's evaluating your current level of aeronautical decision making skill. See? This is just a routine flight. There are no surprises or tricks. We want you to do well. But we also want you to start thinking and making decisions like a professional pilot

Self-Study Assignments Summary

You may be wondering how there could be so many hours of self-study and how those hours should be allocated. The chart below should help.

| | | Approx. Hours |
|--|--|--------------------------|
| Phase 1 | | |
| GND 1: Course Orientation | Read First flight Assignment Read “Maneuvers Setup Checklist” (page 97) | 2.0 |
| GND 2: Introduction to Teaching | Write a lesson plan on and rehearse • Rectangular Course | 2.0 |
| GND 3: Visual Scanning, Collision Avoidance & Runway Incursion Avoidance | Print your airport diagram Write a lesson plan on this subject and rehearse | 4.0 |
| GND 4: Weather Information | Write a lesson plan on and rehearse | 2.0 |
| GND 5: Principles of Flight & Aircraft Flight Controls | Read PHAK Chap 3, 4 and 5 Write a lesson plan and rehearse • Principles of flight • Flight controls | 5.0 |
| GND 6: Regulations & FAA Publications | Write a lesson plan on and rehearse | 2.0 |
| GND 7: National Airspace System | Write a lesson plan on and rehearse | 4.0 |
| GND 8: Aeromedical Factors | Choose your AME Write a lesson plan on and rehearse | 2.0 |
| GND 9: Navigation & Cross-Country Planning | Print your NavLog Write a lesson plan and rehearse • Navigation • Cross-country flight planning | 4.0 |
| GND 10: Nav Systems & Radar | Write a lesson plan on and rehearse | 2.0 |
| GND 11: Airplane Weight & Balance | Calculate a weight and balance Write a lesson plan on and rehearse | 3.0 |
| GND 12: Night Operations | Write a lesson plan on and rehearse | 2.0 |
| FLT 1.1: Selling Your Airplane | Write a lesson plan and rehearse • Power-on stall • Power-off stall | 4.0 |
| FLT 1.2: Your New Synthetic Vision | Prepare for cross country | 4.0 |
| FLT 1.3: Dual Cross-Country Adventure | Write a lesson plan and rehearse • S-Turns across road • Turns about a point | 4.0 |

| Phase 2 | | |
|--|--|-----|
| GND 13: Aircraft Documents | | |
| GND 14: Airworthiness Requirements | Inoperative Equipment Flowchart (page 106) Review maintenance records Write a lesson plan on and rehearse | 2.0 |
| GND 15: Operation of Systems & Performance Limitations | Study POH Write a lesson plan on and rehearse | 6.0 |
| GND 16: High Altitude Operations | Write a lesson plan on and rehearse | 2.0 |
| GND 17: Commercial Pilot Certificate & PTS | Read Regulations | 2.0 |
| FLT 2.1: 180-Degree Power-Off Accuracy Landing | Write a lesson plan and rehearse <ul style="list-style-type: none"> • 180-degree accuracy landing • Normal takeoff • Normal landing | 6.0 |
| FLT 2.2: Eights-on-Pylons | Write a lesson plan and rehearse <ul style="list-style-type: none"> • Eights-on-pylons • Soft-field takeoff • Soft-field landing | 6.0 |
| FLT 2.3: Steep Turns and Accelerated Stalls | Write a lesson plan and rehearse <ul style="list-style-type: none"> • Steep-turns • Short-field takeoff • Short-field takeoff | 6.0 |
| FLT 2.4: Steep Spiral | Write a lesson plan and rehearse <ul style="list-style-type: none"> • Steep spirals • Slow flight | 4.0 |
| FLT 2.5: Chandelle | Write a lesson plan and rehearse <ul style="list-style-type: none"> • Chandelle • Slip to landing | 4.0 |
| FLT 2.6: Lazy Eights | Write a lesson plan and rehearse <ul style="list-style-type: none"> • Lazy eights • Slow flight | 4.0 |
| FLT 2.7: Simulated Engine Failure | Write a lesson plan and rehearse <ul style="list-style-type: none"> • Simulated engine failure • Systems & equipment malfunctions | 4.0 |
| FLT 2.8: Manuevers Review | Prepare for mock checkride | 2.0 |
| FLT 2.9: Mock Commercial Practical Exam | Prepare for FAA checkride | 2.0 |

| Phase 3 | | |
|--|--|-----|
| GND 18: Instructor Responsibilities & Professionalism | Read <i>The Savvy Flight Instructor</i> | 2.0 |
| GND 19: Techniques of Flight Instruction | As assigned by instructor | 1.0 |
| GND 20: Effective Communication, Assessment & Critique | As assigned by instructor | 1.0 |
| GND 21: Risk Management & Liability Reduction | As assigned by instructor | 1.0 |
| GND 22: Pilot Certificates | <ul style="list-style-type: none"> • Read regulations • Write a lesson plan and rehearse Private Pilot Certification | 3.0 |
| GND 23: Log Entries, Endorsements, 8710 & IACRA | <ul style="list-style-type: none"> • Student pilot limitations • IACRA training (page 103) • Revise pre-solo knowledge exam | 2.0 |
| FLT 3.1: Effective Instruction...In Plane, On the Ground | Prepare for next flight | 1.0 |
| FLT 3.2: Effective Instruction...In Flight | Prepare for next flight | 1.0 |
| FLT 3.3: Effective Instruction...A Complete Lesson | Prepare for next flight | 1.0 |
| FLT 3.4: Supervising a Student Pilot...Initial Solo | Prepare for next flight | 1.0 |
| FLT 3.5: Supervising a Student Pilot...Faulty Landings | Prepare for mock checkride | 2.0 |
| FLT 3.6: Mock Flight Instructor Practical Exam | Prepare for FAA Practical Exam | 2.0 |
| FLT 3.7: Final Polish | As necessary | 2.0 |

Online Resources Links

Train Like You Fly by Arlynn McMahan

<http://www.asa2fly.com/Train-Like-You-Fly-Guide-to-Scenario-Based-Training--P931.aspx>

Lesson Plans to Train Like You Fly by Arlynn McMahan

<http://www.asa2fly.com/Lesson-Plans-to-Train-Like-You-Fly-P1529.aspx>

The Savvy Flight Instructor by Greg Brown

<http://www.asa2fly.com/The-Savvy-Flight-Instructor-P162C91.aspx>

Advisory Circulars, FAA Handbooks & PTS Downloads

One great use of online handbooks is public-domain photos for legal use in PowerPoint presentations or other training aids that you can create. Warning, handbooks are very large.

| | |
|--|---|
| Advisory Circulars by Topic | https://www.faa.gov/regulations_policies/advisory_circulars/ |
| Advisory Circular 61-65 | https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22637 |
| Advisory Circular 120-12A | http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%20120-12A.pdf |
| AIM | https://www.faa.gov/air_traffic/publications/media/aim.pdf |
| <i>Airplane Flying Handbook</i> (FAA-H-8083-3) | https://www.faa.gov/regulations_policies/handbooks_manuals/aircraft/airplane_handbook/media/FAA-H-8083-3B.pdf |
| <i>Aviation Instructor's Handbook</i> (FAA-H-8083-9) | https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/aviation_instructors_handbook/ |
| Flight Standards Information Management System | http://fsims.faa.gov/ |
| Order 8900.1 Table of Contents | http://fsims.faa.gov/PICResults.aspx?mode=EBookContents&restricttocategory=all~menu |
| Pilot/Controller Glossary | https://www.faa.gov/air_traffic/publications/media/PCG.pdf |
| <i>Pilot's Handbook of Aeronautical Knowledge</i> (FAA-H-8083-25) | http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/pilot_handbook/ |
| Runway Incursion Avoid | https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/media/PHAK%20-%20Appendix%201.pdf |
| <i>Student Pilot Guide</i> (FAA-H-8083-27) | https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/media/faa-h-8083-27a.pdf |
| PTS, Sport Pilot FAA-S-8081-29 | https://www.faa.gov/training_testing/testing/test_standards/media/faa-s-8081-29.pdf |
| PTS, Recreational Pilot FAA-S-8081-3 | https://www.faa.gov/training_testing/testing/test_standards/media/FAA-S-8081-3a.pdf |
| PTS, Private Pilot FAA-S-8081-14 | https://www.faa.gov/training_testing/testing/test_standards/media/FAA-S-8081-14B.pdf |
| PTS, Commercial Pilot FAA-S-8081-12 | https://www.faa.gov/training_testing/testing/test_standards/media/FAA-S-8081-12C.pdf |
| PTS, Flight Instructor FAA-S-8081-6 | https://www.faa.gov/training_testing/testing/test_standards/media/FAA-S-8081-6D.pdf |

Other Useful Online Resources

| | |
|---|---|
| Private Pilot Syllabus (FREE Download) | http://www.asa2fly.com/Pilots-Manual-Private-Pilot-Syllabus-PDF-P1920.aspx |
| Airman Service Online (change address, request temporary cert, etc.) | http://www.faa.gov/licenses_certificates/airmen_certification/airmen_services/ |
| Replace Airman Certificate | http://www.faa.gov/licenses_certificates/airmen_certification/airmen_services/ |
| Endorsement Labels formatted for peel and stick (FREE Download) | http://www.asa2fly.com/Endorsement-Labels-P1986C502.aspx |
| FAA Safety | www.faasafety.gov |
| WINGS Pilot Proficiency Program | https://www.faasafety.gov/WINGS/pub/learn_more.aspx |
| FAA Regulations Online | https://www.faa.gov/regulations_policies/faa_regulations/ |
| Part 1 | http://www.ecfr.gov/cgi-bin/text-idx?SID=1a2df4b93641fe2c91e09e01cfdfe016&mc=true&tpl=/ecfrbrowse/Title14/14cfr1_main_02.tpl |
| Part 61 | http://www.ecfr.gov/cgi-bin/text-idx?SID=1a2df4b93641fe2c91e09e01cfdfe016&mc=true&tpl=/ecfrbrowse/Title14/14cfr61_main_02.tpl |
| Part 91 | http://www.ecfr.gov/cgi-bin/text-idx?SID=1a2df4b93641fe2c91e09e01cfdfe016&mc=true&tpl=/ecfrbrowse/Title14/14cfr91_main_02.tpl |
| NTSB 830 | http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title49/49cfr830_main_02.tpl |
| Form 8710-1 Airman Certification and/or Rating Application | https://www.faa.gov/forms/index.cfm/go/document.information/documentid/185868 |
| IACRA | https://iacra.faa.gov/iacra/ |
| IACRA Training Site | https://iacratraining.faa.gov/ |
| List of TFRs | http://tfr.faa.gov/tfr2/list.html |
| List of Test Centers | https://www.faa.gov/training_testing/testing/media/test_centers.pdf |
| List of AMEs (by Region) | http://www.faa.gov/pilots/amedirectory/ |
| List of DPEs | http://av-info.faa.gov/DesigneeSearch.asp |
| FREE Online Sectional Charts (not for navigation) | www.skyvector.com |
| Professional Trade Organizations | |
| National Association of Flight Instructors (NAFI) | http://www.asa2fly.com/NAFI-W47C506.aspx |
| Society of Aviation and Flight Educators (SAFE) | http://www.asa2fly.com/SAFE-W48C506.aspx |
| Master Instructors | www.masterinstructors.org |

Tools For the Work-Ready CFI

A work-ready CFI meets customer standards. When a paying customer hires any professional, they expect the professional to have the needed “tools of the trade”, and to have those tools organized and kept in good repair. Tools of the trade for a flight instructor will include all of the normal flight gear, plus—

For Initial Private Pilot Instruction:

- A place and organization of your stuff (in a file folder crate, a roller bag, a flight bag, in a personal locker at the airport, etc)
- A method of determining accurate estimates in time and money and explaining them to a client
- Your preferred syllabus
- Your maneuver briefings
- Self-study assignments for customers to complete at home
- A small inventory of handouts for customers (example: ACs, NavLogs, etc.)
- Contact info for local AMEs and DPEs
- A copy of Advisory Circular 61-65E (endorsements) paper or iPad
- Your pre-solo knowledge exam
- Your written criteria for a student to be ready for first solo
- Your Student Solo Limitations (winds, ceiling, visibility, no MP3, camera, cell phone usage in plane, limited to 14 days, etc.)
- Method for supervising student on solo flights (example: agree on destination of solo flight, agree on a pre-determine time for return, CFI personally dispatch from airport, student calls at each landing (planned and/or unexpected), etc.)
- Your personal requirements that make a student eligible for a Knowledge Exam endorsement (example: administer a written final exam, orally quiz student, etc.)
- Your personal requirements that make an airport appropriate for solo cross country destinations (example: fuel and/or maintenance availability, cell phone and GPS coverage, attendants, runway lengths, airport construction projects, terrain, obstacles, traffic type and density, etc.)
- Additional student solo cross country limitations (changes from solo limitations above)
- Conditions for determining when student is “overdue” on solo flight, procedures you will follow if student is overdue
- Record keeping/training file/progress report, etc.
- A verified current Practical Test Standards and other references
- Aircraft Quick Reference Cards
- The cell phone number of your experienced-CFI mentor

Additional Resources needed for Initial Commercial Pilot Instruction:

- Syllabus
- Maneuver briefings
- Determining eligibility for an endorsement for taking the Knowledge Exam
- Record keeping/training file/progress report, etc.

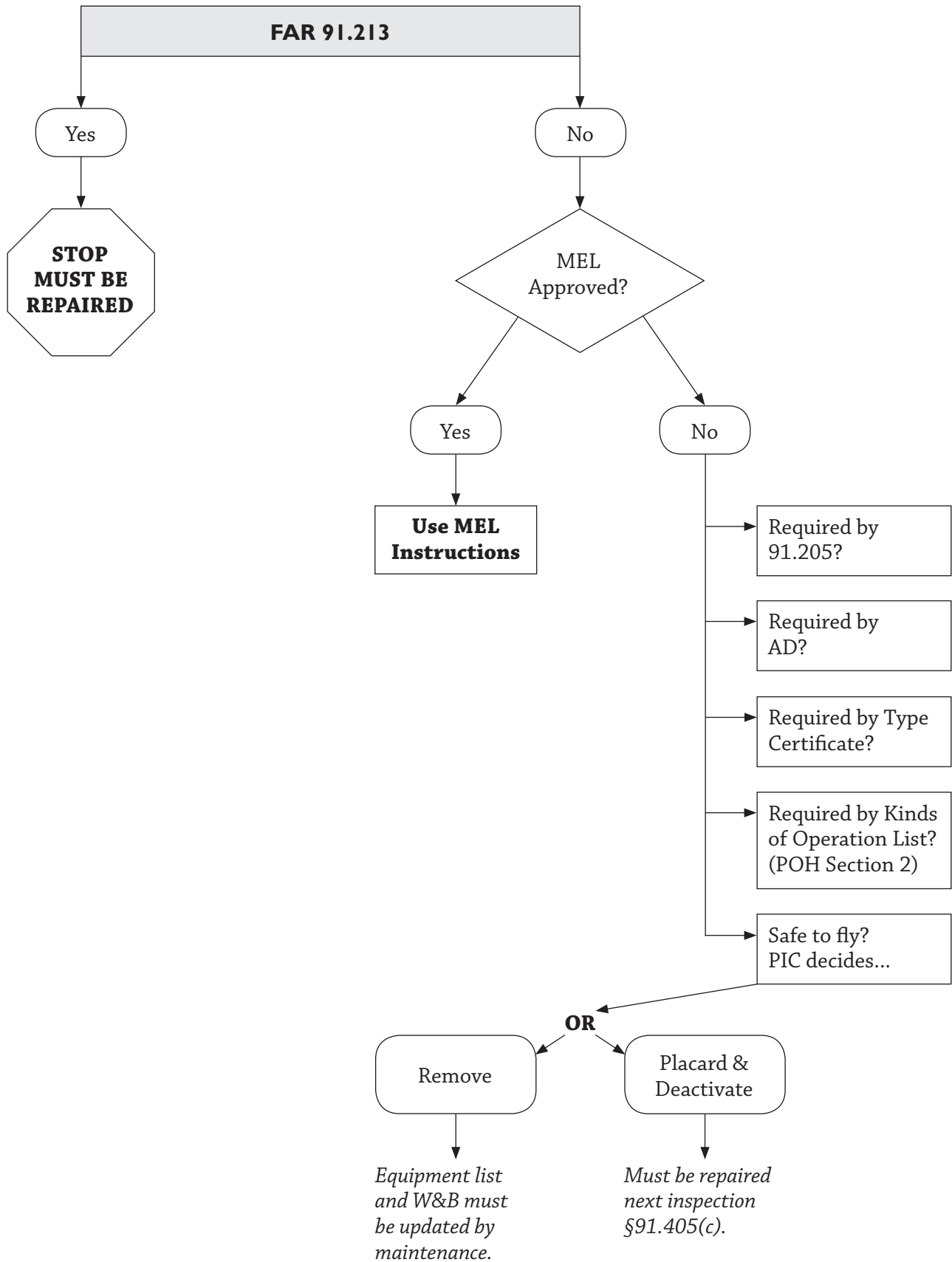
A plan for:

- How you will conduct a flight review
- How you will conduct instruction necessary for a complex endorsement
- How you will conduct instruction necessary for a high performance endorsement

A plan for earning a living as a CFI:

- *The Savvy Flight Instructor* by Greg Brown

Inoperative Equipment Flowchart



Commercial Pilot Limitations Table

§61.133 says that a person who holds a commercial pilot certificate may act as pilot in command of an aircraft carrying persons or property for compensation or hire, provided the person is qualified in accordance—with this part—and with the applicable parts of this chapter that apply to the operation. What does this mean?

“With this part” speaks to Part 61. Specifically, are you appropriately rated and current for the conditions (VFR/IFR/day/night)?

“...and with the applicable parts of this chapter that apply to the operation” speaks to the many different requirements based on the specific job that a commercial pilot might perform. For instance:

| | |
|--|--|
| Is it a passenger carrying flight for compensation? | Participation in an FAA approved drug program is required...even for local sightseeing flights! |
| Is the aircraft being flown for compensation or hire? | Whether an aircraft is flown for compensation or hire has nothing to do with money. Whether or not money is paid for the airplane or to the pilot is not relevant. The FAA may consider a flight for compensation even if no money changes hands. Whether or not a flight is for compensation has mostly to do with who has “operational control”—that is, who makes the go-no/go decision. Neither the pilot/operator nor the passenger can choose who has operational control...the FAA bases it on the type of operation. If the pilot/operator has operational control and is compensated beyond a pro rata share of expenses, the FAA considers it an operation for compensation. |
| <p>Does the flight involve one of the following §119.1(e)</p> <ul style="list-style-type: none"> a. Bird chasing...waiver for minimum altitude b. Banner tow...waiver for §91.313 and maybe §91.119 c. Fire fighting...waiver to §91.119. See also Part 137 d. Power line or pipeline patrol...waiver to §91.119 | A Waiver may be required. |
| <p>Does the flight involve one of the following?</p> <ul style="list-style-type: none"> a. A non-stop sightseeing flight that begins and ends at the same airport within 25 NM (§91.147) b. Parachute operations in some areas (FAR Part 105) c. A passenger carrying flight for the benefit of a charitable, nonprofit or community event (§91.146) | A Letter of Authorization may be required. |

Continued...

| | |
|--|--|
| <p>Does the flight involve one of the following?</p> <ul style="list-style-type: none"> a. Sightseeing in Grand Canyon National Park? (SFAR50-2) b. Transportation from place to place? <ul style="list-style-type: none"> - In common carriage? - Was holding out involved? (<i>see</i> AC120-12A) c. Crop dusting, seeding, or spraying? (FAR Part 137) | <p>An Operating Certificate may be required.</p> |
| <p>Does this flight involve sightseeing over National Parks other than Grand Canyon? (FAR Part 136)</p> | <p>Additional FARs may apply.</p> |

This is just a sample, there may be a few more.

Aircraft Quick Reference

A quick reference enhances safety for a new flight instructor. When suddenly you're flying several different airplanes it becomes difficult to remember airspeeds and other specs on each.

Fill out an Aircraft Quick Reference on each new make and model (M&M) the first time you fly it. Then, if it's a while before you are in it again, you can get up to speed very quickly. Fill out a Quick Reference on each aircraft owner that you fly to help remember their airport hangar number, weight, spouse's name, birthday or other specs on customers.

Format it to be the size of your kneeboard. File it neatly with your other tools. Then when the phone rings for an unexpected flight, you're ready to grab and go. You can review it while waiting at the stop light on the way to the airport. It's a great confidence builder and you'll look like a pro!

| SAMPLE Aircraft Quick Reference Card | |
|--|---------------------------|
| SEL Quick Reference | |
| M&M _____ | |
| Engine Man. & Type _____ | |
| N# _____ Yr. _____ Hangar # _____ | |
| Owner _____ lbs. Spouse _____ lbs. | |
| Preflight | |
| Oil Capacity: Min _____ Max _____ Opt _____ Type _____ | |
| Fuel Capacity: Main _____ Aux _____ Useable _____ | |
| Fuel Notes: _____ | |
| _____ | |
| Airspeeds | Weight and Balance |
| Best Glide _____ | Max Gross _____ |
| V _A _____ | BEW _____ |
| V _R _____ | Useful Load _____ |
| V _{LE} _____ | Loading Notes: _____ |
| V _{LO} _____ | _____ |
| V _{FE} _____ | Fuel Training _____ gph |
| V _X _____ | Cruise _____ gph |
| V _Y _____ | Endurance _____ gph |
| Cabin Air/Heat Operation Notes: _____ | |
| _____ | |
| Unique Avionics: _____ | |
| _____ | |
| Other Things to Remember: _____ | |
| _____ | |

Ways to Say “Good Job!”

The *Aviation Instructor’s Handbook* is clear to say that students respond better to positive reinforcement. But an instructor who just says, “good job” gets old and monotonous. Here are a few more ways to reinforce the positive. Don’t forget the excited voice inflection and exclamation. It’s most important!

| | | |
|---------------------------------------|--|--------------------------------------|
| Attaboy! (...or girl) | You’re on the right track now. | Now, that’s a FINE job! |
| Great! | Nice! | Right on! |
| You’ve got it. | Nice going. | BEAUTIFUL! |
| Super! | That’s really nice. | SUPERB! |
| That’s RIGHT! | You didn’t miss a thing. | You’ve got it down pat! |
| That’s good! | WOW! | Keep it up! |
| You’re on it today! | TERRIFIC! | Well, look at you go! |
| You’re getting it! | Nothing can stop you now. | That’s it! |
| Good work! | SENSATIONAL! | MARVELOUS! |
| MUCH better! | Your brain’s in gear today. That’s better. | I like that. |
| Exactly! | First class! | Way to go! |
| That’s the best you’ve done! | EXCELLENT! | Good thinking. |
| That’s it! | PERFECT! | Good going. |
| Quite an improvement. | WONDERFUL! | You out did yourself! |
| I knew you could do it. | You’ve been practicing! | You figured that out fast. |
| Congratulations! | FINE job! | You remembered! |
| Notttttttt baaaad! | OUTSTANDING! | That makes me happy. |
| Good for you! | FANTASTIC! | Couldn’t have done it better myself! |
| You make my job fun. | Well done. | That’s professional! |
| You make my job easy. | Awesome! | Just like a pro would do it! |
| You obviously had a GREAT instructor! | TREMENDOUS! | By golly, you’ve got it! |

Dog Commands

When lecturing on the ground, the instructor has the luxury of forming completed sentences. We can and should embellish our points with examples and value-add information.

In the cockpit it's different. Long explanations must be avoided. During flight, "instruction" should focus on specific action the instructor wants from the student. Specific actions should not get lost in a long, complicated sentence.

If you've ever trained a puppy then you understand dog commands; "sit", "heel", "wait". They are clear and concise instructions. Dog commands convey desired action.

In flight, think dog commands when telling a student-pilot what to do. "Add power" and "gear up" are enough to communicate what action is desired. You don't have to bark it like an order. Keep your tone of voice at a conversational level when you say "airspeed" ...meaning that you wish the student-pilot to check the airspeed indicator and make a correction.

On the other hand, voice inflection can indicate a sense of urgency. Things like "STOP!" "GO AROUND!" and "POWER!" demand a tone of urgency and a stronger emphasis.

There are times when the student is working hard to complete a task, requiring his complete concentration. As an instructor, we don't want to interrupt his concentration but we must get a little bit of his attention outside. Say it softly—almost a whisper, "scan." It's a quick reminder that he's been heads-down too long.

To prevent student-pilot frustration, a pretakeoff briefing must include descriptions of commands used in the cockpit. Something like, "When I say 'recover' I want you to..." that way there is no confusion on behalf of the student, during flight.

Short sentences. They're important. Even to the instructor. Maintain situational awareness. Reduce distractions. Stay ahead of the plane. Stay ahead of the student. Catch ATC calls. Say much. But talk less. Think more. Can you say it in a question? Even better. Teaches him to think.

Here's the instructor dialog when talking a 4-hour student-pilot through his first landing...

"Checklist done? Good. See the runway? Excellent. We're on downwind. Slowdown. Slow to 70. Reduce power. In the white arc? Flaps to 10. Great. Pitch controls speed. Nose up. More. To the horizon. That's it. Keep it there. Trim. Airspeed stabilized? Scan for traffic. Level left turn. Turn to base. Good. Scan. Still have the runway? Flaps to 20. Reduce power to descend. Nose down. Descent attitude. You got it. How's your trim? Turn now. Line up with the runway. Good. Put the centerline between your legs. That's right. Reduce power a smidgen. Perfect. See the PAPI? You're perfect! Reduce power further. Check airspeed. Good. Focus on the numbers. Keep your wings level. We have the runway made. Retard throttle. Look down the runway now. That's it. Let's flare. Pitch up. That's right. Nose up to the horizon. Give me a stall attitude. Perfect. A touch of right rudder. Good. We're on the ground. Steer with your feet. Stay on centerline. Gently, Feet up on brakes. Good. Release, let 'em cool. Brakes, harder this time. Good. Come to a stop. Stay on centerline. Stop! Not too bad. Not bad at all."

Here's the instructor dialog when talking a 8-hour student-pilot through his first landing...

Checklist done? Runway in sight? What will you do next? [*stabilize airspeed*] Good. Airspeed stabilized? What's next? [*turn base*] Good. See our traffic? What's next? [*stabilize descent*] Right on! How will we avoid vortices behind that aircraft landing ahead of us? That's right. Where will you touchdown? Great. [*student turns final*] How's your glidepath? You're drifting. [*crosswind*] Make a correction. Is your approach stabilized? [*over the runway*] Nose up a bit. On the horizon. Wings level. Good. [*after touchdown*] By golly you're getting it!

Here's the instructor dialog when talking a student-pilot through his last dual landing before initial solo...

[engine noise]

(An initial-solo student should be flying, acting and thinking as the PIC—there should be little action that the instructor must prompt.)

Here's the instructor dialog when talking a student-pilot through a landing before solo cross-country...

“Make this a soft-field landing. Turn off before taxiway Gulf.”

You get the idea. Maneuvers are taught on the ground and experienced in the air. If you've done a good pre-flight briefing, then the student only needs reminded about action items.

The instructor must remind the student not only what action to take but also the degree of action that is needed. As an example, the instructor must communicate the need to add power AND an indication of how much power—do you want the student to add “just a smidgeon of power” or do you want “FULL POWER, NOW!” An apprehensive student recovering from his first stall might point the cowl to the earth if you say “nose down” unless you say, “nose down, descent attitude.” The better you can communicate the degree to which an action should be taken lessens instructional surprises.

OK, so when the instructor says, “dog commands” it's a reminder to you, the instructor-in-training, to shorten your sentences. Direct the student-pilot on what to do, how much to do it, where to look and how to think. But just the action words.