



# COURSE SYLLABUS

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## FLIGHT INSTRUCTOR





**Cessna eLearning  
Web Based Instructional Programs**

# **Cleared for Flight Instructing Flight Instructor Training Course**

## **SYLLABUS**

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**Version 1.01**

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**Cleared for Flight Instructing**  
**Flight Instructor Syllabus**  
***Your Path to Becoming a CFI***

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## FLIGHT INSTRUCTOR SYLLABUS REVISION RECORD

<b>Revision Number</b>	<b>Revision Date</b>	<b>Online Date</b>	<b>Change Description</b>
Ver. 1.00	10-31-16	ORIGINAL	ORIGINAL
Ver. 1.01	05-15-17	05-22-17	Title page, TOC & pg i added <i>Cleared for Flight Instructing</i> title.

### ***Record of Revisions***

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# **Cleared for Flight Instructing**

## **Cessna Flight Instructor Syllabus**

### ***Your Path to Becoming a CFI***

#### ***Purpose***

You are entering the realm of the most important position in all of aviation, the Flight Instructor. As the trainers, flight instructors hold the destiny of aviation in their hands by preparing new pilots and advancing existing pilots to obtain the knowledge and risk management, as well as the flight skills to safely operate in the national airspace system.

Your Cessna Flight Instructor syllabus lays out the ground and flight training that will prepare you to become a Certificated Flight Instructor (CFI). Your training will be tracked in the Cessna Flight Training System online *Course Tracking Application* (CTA). Each online Lab, Lesson Group and Lesson has been arranged with the flight lessons (represented by individual training scenarios) to progressively prepare you to teach flying.

The two stages of the *Cessna Flight Instructor Syllabus* are subdivided into one or more “phases,” each containing multiple knowledge lessons and flight scenarios. Progress checks are located in phases at key points in the course including those marking the end of a stage.

You will use this document as your day-to-day guide for training since it provides all the details for applying the curriculum elements.

Although written to comply with the 14 CFR Part 141 Pilot School Flight Instructor Certification Course requirements, the *Cessna Flight Instructor Syllabus* may also be used with a 14 CFR Part 61 flight instructor training curriculum when adjusted for the part 61 requirements.

#### **STEPS FOR BECOMING A CERTIFICATED FLIGHT INSTRUCTOR (CFI)**

Becoming a Certificated Flight Instructor is a major milestone in a pilot’s career since it is often the first level of flight employment. Your Cessna Pilot Center will explain, in detail, the course enrollment requirements shown below:

- Hold a commercial pilot or airline transport pilot certificate.
- Hold an instrument rating appropriate to the aircraft category and class for instructor privilege sought.
- Hold a current third class medical certificate.
- Pass knowledge tests on Fundamentals of Instructing and aeronautical knowledge appropriate to instructor rating sought.
- Complete the required flight training for the course (see Appendix A).
- Pass a flight instructor practical test.

#### **COURSE ELEMENTS**

The Cessna online training

- Provides innovative and interactive learning exercises.
- Is accessible anywhere you have an Internet connection or may be used remotely by downloading to a mobile device.

The unique design of the training program

- Integrates web-based knowledge sessions with flight scenarios.
- Ensures that before every flight you will have the required knowledge to succeed.

You and your instructor will discuss the schedule for your training and you will know

- When to complete the appropriate web-based knowledge instruction.
- What to prepare for each flight scenario.

Upon completion of each flight scenario you and your instructor will

- Review the elements of the flight scenario and the scenario outcome.
- Compare your performance to the completion standards.
- Independently evaluate the tasks in the flight scenario.
- Discuss and compare the results.
- Discuss the next flight scenario.

*Please note that it may take you more than one flight to complete a flight scenario to the established standards.*

## **COURSE STRUCTURE**

### **STAGES**

The course is divided into two stages:

- Stage 1: Learning the Flight Instructor Role
- Stage 2: Becoming a Flight Instructor

### **PHASES**

Each stage is made up of one or more phases. There are a total of four phases:

#### **Stage 1: Learning the Flight Instructor Role**

Phase 1: Demonstrating Maneuvers from the Right Seat

Phase 2: Gaining Proficiency Demonstrating and Explaining Maneuvers

Phase 3: Refining Instructional Skills

#### **Stage 2: Becoming a Flight Instructor**

Phase 4: Demonstrating Instructional Competence

### **SCENARIOS**

There are multiple flight scenarios within each phase. The completion standards for the scenario tasks in each phase are found in the respective Phase Proficiency Checklist.

Once all items on the phase proficiency checklist are completed to the level of performance required for that phase, you can then move on to the next phase of training.

You are not required to complete every flight scenario within a phase if you have already demonstrated the standards indicated for that phase, but it is highly recommended that you do so, as the scenarios progress in complexity to give you maximum efficiency in your training. Progress Checks are required scenarios.

## **PROGRESS CHECKS**

Each stage has at least one Progress Check at the end of the last phase of each stage. The progress checks are found:

- Stage 1, phase 1
- Stage 1, phase 2
- Stage 1, phase 3
- Stage 2, phase 4

## **PHASE SEQUENCE**

The four phases are:

**1. DEMONSTRATING MANEUVERS FROM THE RIGHT SEAT** — Your flight instructor curriculum ground study for Phase 1 reviews and delves further into Aerodynamics, Sectional Charts, Airspace and Weather Minimums, and Federal Aviation Regulations.

Your in-flight scenarios begin with exercising the flight controls and thereafter flying all the scenarios from the instructor's flight station (normally the right seat in a side-by-side cockpit). You will start explaining how to perform maneuvers as you demonstrate them. You will also start the process of analyzing and correcting errors with basic maneuvers made by your instructor when simulating a pilot you are training. You will also look for the risks involved with maneuvers and formulate strategies to mitigate them. In the last scenario of this phase you will fly with another instructor for a phase progress check.

**2. GAINING PROFICIENCY, DEMONSTRATING AND EXPLAINING MANEUVERS** — For this Phase's ground lessons, you will look more in depth at the Flight Instruments, Aircraft performance, Weather, Weight and Balance, then study how to teach flight maneuvers with the Teaching Maneuvers lab.

During your in-flight scenarios you will demonstrate all designated maneuvers to the specified standards while simultaneously explaining the elements of each maneuver. You will also start using scenarios for introducing a maneuver to a simulated pilot in training. In addition, you will continue exercising risk management while analyzing and correcting errors made by your instructor simulating a pilot being trained on more advanced maneuvers. The last scenario of this phase is another phase progress check that you will fly with a check instructor.

**3. REFINING INSTRUCTIONAL SKILLS** — In this phase, your ground study will include Communications and Radar Services, Radio Navigation, and the Fundamentals of Instructing (FOI). After completing the FOI Lab and the question review feature for FOI, you will be prepared to take the FOI knowledge test.

You will be involved with planning your in-flight scenarios as instructional flights and expanding lesson scenario development to include all maneuvers. You will also refine error analysis and correction for the simulated pilot in training performance. You will complete this phase with an end-of-stage progress check flown with another instructor.

**4. DEMONSTRATING INSTRUCTIONAL COMPETANCE** — Your knowledge study for this phase includes the Cross-Country Planning, Flight Operations and Advanced Ground Instructor Labs as well as concentrated sessions with your instructor in preparation for the practical test.

Your in-flight activities include demonstrating all maneuvers while simultaneously explaining how to fly them, introducing maneuvers to simulated pilots in training, correcting simulated errors, teaching maneuvers appropriate for risk surveillance and mitigation, and demonstrating active instructional level risk awareness, identification and mitigation. You will fly an end-of-course progress check with an appropriately designated instructor.

Since each phase builds on what you have learned before, it is important that you complete the phases in the proper sequence. However, some degree of flexibility is necessary.

- Weather and other factors may make it impractical to conduct a particular flight scenario while another may be possible.
- In this case your instructor, with the approval of the chief instructor, may suggest out-of-phase and out-of-stage scenarios that can be completed with the current conditions.
- If available at your flight school and approved for this course, you may complete all or portions of a flight scenario using an aviation training device, flight training device, or flight simulator.

***IMPORTANT:*** *The syllabus does not address your local Cessna Pilot Center's safety practices and procedures; review these key items before or after the first flight with your instructor.*

## **PHASES**

There are 4 phases of training. Each phase has

- ***Required Web-based Knowledge Instruction***
- ***Suggested Flight Scenarios***
- ***Required Phase Ground Training Checklists***
- ***Required Phase Proficiency Checklists***

### **Web-based Knowledge Instruction**

- Forms the customer's knowledge foundation to be used for the flight scenarios
- Is directly correlated to the phase
- Is to be completed before the corresponding phase can be considered complete

### **Flight Scenarios**

- Are placed in a suggested order of completion
- Can be flown
  - Once
  - More than once
  - Not at all
- Can be customized for your local training environment
- Can be completed out of phase or stage if approved by the Chief or Assistant Chief Instructor

### **Phase Ground Training Checklists**

- Can be prepared for through study of the web-based curriculum and course library materials
  - Including FAA publications such as the *Aviation Instructor's Handbook*, *Pilot's Handbook of Aeronautical Knowledge* and *Airplane Flying Handbook*
  - Recorded as 'Instruction Given', 'Describe' or 'Explain'
    - 'Instruction Given' indicates that your instructor briefed you on the subject
    - 'Describe' indicates that you are able to describe the physical characteristics of the maneuver or knowledge area
    - 'Explain' indicates that you are able to describe the task or knowledge area and understand the underlying concepts, principles and procedures
  - Must be demonstrated to the 'Explain' level to complete the phase

### **Phase Proficiency Checklists**

- Contain tasks that are to be completed to the 'Perform' level in order to complete the phase
- Contain single-pilot resource management that is to be completed to the 'Manage/Decide' level
  - Grading criteria is discussed in detail later in this document
- Contain completion standards for the phase

### **PROGRESSING THROUGH THE SYLLABUS**

A phase is considered complete when all the tasks are completed to the 'Perform' or 'Manage/Decide' level as appropriate for the completions standards given on the Phase Proficiency Checklist.

It is recommended that the order of the suggested scenarios be followed.

- However, with the approval of your Chief or Assistant Chief Instructor you can complete scenarios that are out of the current phase
- This flexibility allows greater efficiency in course of flight training

You do not need to complete all scenarios in a phase in order to complete that particular phase. The scenarios are simply suggested flights to get you to the 'Perform' and 'Manage/Decide' level for the tasks and standards for that phase.

*It is more common to repeat the scenarios in order to obtain the desired level of proficiency and safety than to skip them.*

If you are able meet all of the phase standards and skip a scenario, you and your instructor must make sure that you meet the hourly training requirements applicable to your approved training course. It is possible you could finish the course meeting all the standards, but be deficient in the required minimum time and have to make it up at the end.

## **OVERALL SYSTEM USE**

The Cessna Flight Instructor course is designed to provide the most benefit when

- The instructor assigns preparation for the next scenario
  - Web-based study
  - Suggested study materials
  - Scenario planning
- Prior to the next scenario, you
  - Study the assigned materials
  - Perform the necessary scenario planning
- Prior to the flight, the instructor
  - Prints your training package (or downloads it to a mobile device) including the
    - Phase Ground Training Checklist
    - Phase Proficiency Checklist
    - Scenario
- During the preflight briefing
  - Your instructor evaluates the applicable items on the Phase Ground Training Checklist
  - You ask any questions you have to clarify your understanding of the knowledge areas and the upcoming scenario
  - You brief the instructor on the scenario planning
- During the postflight briefing
  - You independently grade the applicable tasks on the Phase Proficiency Checklist
  - Your instructor independently grades the tasks on the Phase Proficiency Checklist
  - You then discuss the scenario outcome and compare grading
  - The instructor logs the scenario into the Course Tracking Application through a mobile device or a computer at your Cessna Pilot Center

## **FAA INDUSTRY TRAINING STANDARDS (FITS)**

This flight training syllabus uses the concepts developed under the FAA Industry Training Standards (FITS) program. FITS incorporates three tenets

- Scenario-based training (SBT)
- Single-pilot resource management (SRM)
- Learner-centered grading (LCG)

**Scenario-Based Training (SBT)** uses real-world scenarios as the foundation of training. Flight maneuvers are still a vital part of flight training, but the use of real-world scenarios helps to develop a pilot's decision making skills. The training presents situations and circumstances that pilots face every day as learning experiences.

**Single-Pilot Resource Management (SRM)** includes the concepts of aeronautical decision making (ADM), risk management (RM), task management (TM), automation management (AM),

controlled flight into terrain (CFIT) awareness, and situational awareness (SA). SRM training helps the pilot to accurately assess and manage risk, thereby making logical and timely decisions.

**Learner-Centered Grading (LCG)** includes two parts: learner self assessment and a detailed debrief by the instructor. The purpose of the self assessment is to stimulate growth in the learner's thought processes and, in turn, behaviors. The self assessment is followed by an in-depth discussion between the instructor and the customer that compares the instructor's assessment to the customer's self assessment.

## **SCENARIO-BASED TRAINING**

The scenario-based approach to training pilots emphasizes the development of critical thinking and flight management skills, rather than focusing solely on traditional maneuver-based skills. The goal of this training philosophy is the accelerated acquisition of higher-level decision making skills. Such skills are necessary to prevent pilot-induced accidents.

Scenario-based training goals include the development of

- Critical thinking skills
- Aeronautical decision making skills
- Situational awareness
- Pattern recognition (emergency procedures) and judgment skills
- Automation competence
- Planning and execution skills
- Procedural knowledge
- Psychomotor (hand-eye coordination) skills
- Risk management skills
- Task management skills
- Automation management skills
- Controlled flight into terrain (CFIT) awareness

For scenario-based training to be effective there must be a purpose for the flight and consequences if the flight is not completed as planned.

It is vital that you, the instructor in training, and your instructor communicate the following information well in advance of every training flight:

- Purpose of the flight
- Pressures to complete the flight (real or simulated)
- Risks/hazards associated with the scenario (real or simulated)
- Scenario destination(s)
- Desired outcomes
- Possible in-flight scenario changes or deviations (during later stages of the program)

With the guidance of your instructor, you should plan and fly the scenario as realistically as possible. This means that you will know where you are going and what will transpire during the flight. While the actual flight may deviate from the original plan, this method allows you to be placed in a realistic scenario.

## **SCENARIO PLANNING**

Prior to the flight, you will be briefed on the scenario to be planned. You will plan the scenario; your instructor will help you the first few times. The flight scenario should include

- Simulated real-world reason to go flying
- Route
  - Destination(s)
  - Weather
  - NOTAMs
- Pressures to complete the flight (real or simulated)
- Risks associated with the scenario (real or simulated)
- Possible deviations

Reality is the ultimate learning situation, and scenario-based training attempts to get as close as possible to this ideal. The more realistic the training scenario, the better we learn

- Core safety habits, and
- Decision-making skills that can be applied in the real-world

## **SINGLE-PILOT RESOURCE MANAGEMENT (SRM)**

Single-pilot resource management is defined as the art and science of managing all the resources (both onboard the aircraft and from outside sources) available to a pilot flying in a single-pilot operation (prior to and during flight) to ensure that the successful outcome of the flight is never in doubt.

SRM includes the concepts of

- Task management (TM)
- Automation management (AM)
- Risk management (RM)
- Aeronautical decision making (ADM)
- Situational awareness (SA)
- Controlled flight into terrain (CFIT) awareness

SRM training helps a pilot maintain situational awareness by

- Managing the technology in the aircraft as well as aircraft control and navigation tasks
- Enabling the pilot to accurately assess and manage risk while making accurate and timely decisions
- Helping pilots learn how to gather information, analyze it and make decisions

In most flight scenarios, there is no one correct answer. Pilots are expected to analyze each situation in light of their

- Experience level
- Personal minimums
- Current physical and mental condition
- Ability to make their own decisions as best as possible



Below are standards for each training concept of SRM:

<b>Performance</b> The training task is:	<b>Standards</b> You will:
Task management (TM)	Prioritize and select the most appropriate tasks (or series of tasks) to ensure successful completion of the training scenario.
Automation management (AM)	Program and utilize the most appropriate and useful modes of cockpit automation to ensure successful completion of the training scenario.
Risk management (RM)	Utilize risk management tools to assess and mitigate risk associated with the planned flight both during the preflight planning and in flight.
Aeronautical decision-making (ADM)	Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.
Situational Awareness (SA)	Be aware of all factors such as traffic, weather, fuel state, aircraft mechanical condition, and pilot fatigue level that may have an impact on the successful completion of the training scenario.
Controlled Flight Into Terrain (CFIT) Awareness	Understand, describe, and apply techniques to avoid CFIT during inadvertent encounters with IMC during VFR flight, periods of reduced visibility, or at night.

## **LEARNER-CENTERED GRADING**

Learner-centered grading includes two parts

- Learner self-assessment
- A detailed debrief by the instructor

The purpose of the self-assessment is to stimulate growth in the learner's thought processes and, in turn, behaviors. The self-assessment is followed by an in-depth discussion between you and your flight instructor that compares your self-assessment to the instructor's assessment.

Pre- and post-flight briefings are essential for setting goals. During events and tasks that require high levels of attention, there may be little time for learning as the bulk of your cognitive resources are given to performing the actual task.

## INDEPENDENTLY GRADING THE SCENARIO

After the scenario is complete, you and your instructor should independently grade your performance for maneuvers and single-pilot resource management (SRM). Note that any grade that would not apply to the task has been grayed out in this syllabus.

It is very important that enough time is allowed. Simply assigning grades and signing logbooks within a limited period of time will not work with this grading system.

After independently evaluating the *actual scenario outcomes* compared to the *desired outcomes*

- You and your instructor come together to compare and discuss your individual evaluations during the postflight discussion

You and your instructor may disagree on the evaluations.

- This should be used as an opportunity to discuss the scenario further
- The instructor has the final authority in assigning the final grade for the desired outcomes

## MANEUVER (TASK) GRADES

- **Describe** – At the completion of the ground training session, the pilot in training will be able to describe the physical characteristics of the task at a rote level.
- **Explain** – At the completion of the ground training session, the pilot in training will be able to describe the task and display an understanding of the underlying concepts, principles, and procedures.
- **Practice** – At the completion of the scenario, the pilot in training will be able to plan and execute the scenario. *Coaching, instruction, and/or assistance from the instructor will correct deviations and errors identified by the instructor.*
- **Perform** – At the completion of the scenario, the pilot in training will be able to perform the activity without assistance from the instructor. *Errors and deviations will be identified and corrected by the customer in an expeditious manner. At no time will the successful completion of the activity be in doubt. ('Perform' will be used to signify that the pilot is satisfactorily demonstrating proficiency in traditional piloting and systems operation skills.)*
- **Not Observed** – Any event not accomplished or required in the scenario.

*Example:*

- Once the pilot in training can explain the effect of crosswind and speed reduction on rudder effectiveness, they have achieved a level of learning that will allow for meaningful "Practice."
- The "Perform" level is met when the completion standards for the particular scenario or phase are met.

## **SINGLE-PILOT RESOURCE MANAGEMENT (SRM) GRADES**

- **Explain** – At the completion of the ground training session, the pilot in training can verbally identify the risks inherent in the flight scenario.
- **Practice** – The pilot in training can identify, describe, and understand the risks inherent in the scenario. The customer may need to be prompted to identify risks and make decisions.
- **Manage/Decide** - The pilot in training can correctly gather the most important data available both within and outside the cockpit, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision. *Instructor intervention is not required for the safe completion of the flight.*
- **Not Observed** – Any event not accomplished or required in the scenario.

*Example:*

- A pilot who is becoming proficient at aeronautical decision making (ADM) and risk management (RM) would be graded first at the “Practice” level.
- The “Manage/Decide” level is met once a pilot makes decisions on their own, for instance, the decision to go-around without being prompted.

## **EVERYDAY USE OF FITS CONCEPTS**

### **The PAVE Checklist**

Use the PAVE Checklist as an easy way to implement the FITS concepts.

The PAVE checklist is

- A simple way to remember and examine the risk factors before you fly, and
- Can also help you manage the specific risks associated with taking off and landing

The PAVE checklist puts risk factors into four categories:

**P**ilot

**A**ircraft

**e**nVironment

**E**xternal pressures

**The pilot.** Are you fatigued? When was the last time you were flying in the weather conditions that you will encounter? What are your personal minimums?

**The aircraft.** Are you familiar with the aircraft? Its avionics? Is it airworthy? What is the density altitude? How does that affect your climb rate? What is your maximum crosswind component?

**The environment.** Are the temperature and dew point close? Are you familiar with the area and its topography? Are there any NOTAMs?

**External pressures.** Are others influencing the flight? Do you have people waiting for you at the airport?

## **KNOWLEDGE CONTENT**

### **WEB-BASED KNOWLEDGE INSTRUCTION**

The web-based knowledge instruction should be completed before beginning the flight scenarios in each corresponding phase; you can work ahead as far in the course as you like at your discretion. However, the course is designed so that the web-based knowledge instruction corresponds to the flight scenarios within a phase.

If you have an extended time lapse between studying the web-based knowledge instruction and flying the companion scenario, you will find it very helpful to take some time to review your last knowledge sessions just before you fly the associated scenario.

You complete the web-based knowledge instruction satisfactorily by answering all the questions correctly. Your instructor will

- Review your results before you fly
- Answer any questions you may have

### **KNOWLEDGE TEST**

Cessna's online Flight Instructor course includes a Question Review & Test Prep feature which

- Contains examples of FAA-style test questions for both the Fundamentals of Instructing (FOI) and the Flight Instructor Airplane (FIA) knowledge tests
- Provides the answers and explanations of the correct and incorrect answer choices
- Prepares you to take a CPC practice test and the FAA knowledge tests

Upon completing Phase 3, you will want to prepare for and take the FAA Fundamentals of Instructing (FOI) airman knowledge test and before taking your practical test, you will take the FAA Flight Instructor, Airplane (FIA) airman knowledge test. As a part of your preparation, your Cessna Pilot Center (CPC) will likely want you use the Question Review & Test Prep feature to take a practice test (CPC knowledge test) as a part of their course. The CPC test

- Has questions covering the required FAA knowledge areas
- Counts as your CPC final exam for the course.
- Is taken and proctored at your Cessna Pilot Center using the randomly generated exam feature of the Question Review in your course by selecting
  - Practice Exams
  - Randomly Generated Exam
  - Start New, and
  - If previous random exams taken, select OK to overwrite previous results

When you have completed all the questions in your CPC knowledge test

- Select "Finish / Suspend"
- Select "Finish", and then
- Your proctor will
  - Select View Exam Results
  - Print the Exam Results Summary, and
  - Select View Exam Detail and note any question not answered correctly

When you have finished the test, your instructor will

- Review the results with you, and
- Assign appropriate areas for review if necessary

After taking the CPC knowledge test, you should then take the FAA knowledge tests as soon as possible as the information will be fresh in your memory.

## **FLIGHT SCENARIOS**

### **PREFLIGHT BRIEFING**

Before each flight scenario you and your instructor will review the scenario objectives to make sure you both understand what you will be doing during the lesson.

- Use this opportunity to ask any questions
- Make sure you understand what is expected of you
- You will need a view-limiting device such as a hood or view-restricting glasses for a scenario having (IR—instrument reference) associated with any task

### **POST-FLIGHT DISCUSSION AND EVALUATION**

After each flight, you and your instructor will

- Review your flight and evaluate your performance independently
- Compare and discuss your self-evaluation with his or her evaluation

Your instructor will make recommendations to help you in your learning. Make sure you ask questions about any area that is not clear.

You will then complete your flight training record based on the completion standards for the phase. Any tasks requiring additional practice to meet the phase completion standards will be carried over to the next flight scenario.

*You may expect at least one-half hour for preflight and post-flight briefings for each scenario.*

### **PROGRESS CHECKS**

Progress checks are designed to ensure that you progress at the appropriate level of proficiency to move on to the next level. Normally, the Chief Instructor, Assistant Chief Instructor or an assigned instructor will fly with you.

Progress checks are nothing to get nervous about; they are there to ensure the completeness of your training. You will find that flying with another instructor often provides fresh insight and new techniques.

## **REQUIRED AERONAUTICAL KNOWLEDGE AREAS**

The Federal Aviation Regulations 14 CFR Parts 61 and 141 specify aeronautical knowledge areas that must be covered in the ground training for a Flight Instructor Course. Also noted is reference to knowledge areas for Recreational, Private, and Commercial Pilot applicable to the aircraft category for which flight instructor privileges sought. All required areas are covered in this course, but they are distributed throughout the curriculum for subject continuity and logical development. You will find these required topics included in lessons listed as follows:

### **(1) Fundamentals of Instructing**

#### **PHASE 3; 3.3.1 The Learning Process**

- Characteristics of Learning
- Principles of Learning
- Perceptions
- Insights
- Motivation
- Levels of Learning
- Domains of Learning

#### **PHASE 3; 3.3.2 Physical Skills, Memory, and Transfer of Learning**

- Learning Skills
- Memory
- Forgetting and Retention
- Transfer of Learning

#### **PHASE 3; 3.3.3 Human Behavior**

- Human Needs
- Defense Mechanisms
- The Instructor Role in Human Relations
- Effective Communication

#### **PHASE 3; 3.3.4 The Teaching Process**

- Teaching Steps
- Lesson Sequence
- Lecture
- Cooperative or Group Learning
- Guided Discussion
- Demonstration/Performance
- Computer Based Training

#### **PHASE 3; 3.3.5 Critique, Evaluation and Instructional Aids**

- The Instructor as a Critic
- Oral Quizzing
- Written Tests
- Performance Tests
- Instructional Aids

#### **PHASE 3; 3.3.6 Flight Instructor Responsibilities**

- Professionalism
- Helping Student Pilots Learn
- Endorsing a Student for Solo Flight
- The Flight Instructor as a Practical Psychologist

#### **PHASE 3; 3.3.7 Flight Instruction and Planning Lessons**

- Techniques of Flight Instruction
- Obstacles to Learning

Identifying Blocks of Learning  
Lesson Plans

**(2) Applicable Federal Aviation Regulations that relate to Recreational, Private, and Commercial Pilot Privileges, Flight Rules, and Accident and Incident Notification**

PHASE 1; 1.4.1 Documents You Need in Flight

Pilot Documents

Aircraft Documents

PHASE 1; 1.4.2 Pilot Certificate Requirements and Limitations

Student Pilot Requirements and Limitations

Recreational Pilots

Private Pilots

Commercial Pilots

Flight Instructor Certificate Durations, Limitations and Responsibilities

PHASE 1; 1.4.3 FAA Knowledge and Practical Tests

Knowledge Tests

Practical Tests

PHASE 1; 1.4.4 Flight Requirements and Limitations

Recency, Tailwheel Endorsements and Flight Reviews

Pilot in Command Limitations

Commercial Flights and Turbine-Powered Airplanes

PHASE 1; 1.4.5 Aircraft Maintenance and Equipment

Maintenance Requirements

Minimum Equipment List

PHASE 1; 1.4.6 Rules to Fly By

Preflight Planning, Safety Belts and Oxygen

Minimum Safe Altitudes, Aerobatic Flight and Night Flying

Right of Way

VFR Cruising Altitudes

Speed Limits

Light Gun Signals

Transponders

PHASE 1; 1.4.7 Alcohol, Drugs, Emergencies and Notification Action

Alcohol and Drugs

Emergency Actions and ELTs

Accident and Incident Notification

Address Change Notification

PHASE 4; 4.3.1 Advanced Ground Instructor

V-Speeds and Terms

Regulations

Ground Instructor Privileges

**(3) Basic aerodynamics and principles of flight**

PHASE 1; 1.1.1 Lift and Stalls

Lift

Angle of Attack

Stalls and Spins

PHASE 1; 1.1.2 Forces on an Aircraft

Forces on an Aircraft

Drag

Climb Performance and Aircraft Axes

- Propellers and Left Turning Tendency
- PHASE 1; 1.1.3 Wing Design and High-Lift Devices
  - Wing Shape
  - High Lift Devices
- PHASE 1; 1.1.4 Maneuverability, Controllability and Stability
  - Maneuverability and Controllability
  - Stability
  - Center of Gravity
  - Lateral Stability
- PHASE 1; 1.1.5 Maneuvering Flight
  - Turns and Forces in Turns
  - Rate and Radius of Turns
  - Load Factor
  - Gear and Flap Configurations
  - Maneuver Diagram
  - Severe Turbulence
- PHASE 1; 1.1.6 Airspeed Limitations, Vortices and Ground Effect
  - Airspeed Limitations
  - Wing Tip Vortices
  - Ground Effect
- PHASE 1; 1.1.7 Multiengine Operations
  - Multiengine Operations
- (4) Meteorology including critical weather situations, windshear recognition and avoidance, and the use of aeronautical weather reports and forecasts**
  - PHASE 2; 2.3.1 The Atmosphere, Pressure Systems and Fronts
    - Standard Atmosphere
    - Pressure Systems and Wind
    - Fronts
    - Stability and Clouds
  - PHASE 2; 2.3.2 Clouds, Moisture and Stability
    - Moisture
    - Stability
    - Unstable Air
    - Stable Air
    - Temperature Inversions
  - PHASE 2; 2.3.3 Weather Hazards
    - Fog
    - Ice and Freezing Rain
    - Thunderstorms
    - Microbursts
    - Windshear
    - Turbulence
    - Mountain Wave
  - PHASE 2; 2.3.4 Current Weather
    - Surface Aviation Weather Reports
    - METAR Report Rules
    - Automatic Surface Observations
    - PIREPs



PHASE 2; 2.3.5 Forecasts

- Terminal Forecasts
- Area Forecasts
- Winds and Temperature Aloft

PHASE 2; 2.3.6 Weather Charts

- Constant Pressure Charts
- Surface Analysis Charts
- Weather Depiction Charts
- Low Level Prognostic Charts

PHASE 2; 2.3.7 Aids for Avoiding Hazardous Weather

- Weather Advisories
- Radar Weather Reports
- Severe Outlook Chart

**(5) Safe and efficient operation of aircraft**

PHASE 1; 1.1.6 Airspeed Limitations, Vortices and Ground Effect

- Airspeed Limitations
- Wing Tip Vortices
- Ground Effect

PHASE 4; 4.2.1 Preflight Planning

- Flight Plans
- Chart Supplement
- NOTAMs

PHASE 4; 4.2.5 Taxiing in the Wind and Collision Avoidance

- Taxiing in the Wind
- Avoiding Midairs
- Scanning for Traffic

PHASE 4; 4.2.6 Aeromedical Factors

- Hypoxia
- Oxygen
- Alcohol, Hyperventilation, and Scuba Diving
- Motion Sickness, Spatial Disorientation and Vision

PHASE 4; 4.2.7 Visual Glide Slopes, Airport Markings and Lighting

- 2 Bar and 3 Bar VASI
- PAPI and Tricolor VASI
- Airport Markings
- Airport Lighting
- Segmented Circle

**(6) Weight and balance computations**

PHASE 2; 2.4.1 Weight and Balance Principles and Calculation

- Weight and Balance Principles
- Locating the Center of Gravity
- Using Graphs to Determine Center of Gravity
- Finding New CG When Adding Weight
- Shifting Weight to Move the CG

**(7) Use of performance charts**

PHASE 2; 2.2.1 An Airplane's Performance Altitude

- Finding Pressure Altitude
- How Density Altitude Affects Performance

- PHASE 2; 2.2.2 Calculating Performance
  - Checking the Ground Roll
  - Takeoff Distance to Clear an Obstacle
  - Climb Performance
  - Glide Distance
  - Crosswind Component
  - Landing Distance

**(8) Significance and effects of exceeding aircraft performance limitations**

- PHASE 1; 1.1.5 Maneuvering Flight
  - Turns and Forces in Turns
  - Rate and Radius of Turns
  - Load Factor
  - Gear and Flap Configurations
  - Maneuver Diagram
  - Severe Turbulence
- PHASE 1; 1.1.6 Airspeed Limitations
  - Airspeed Limitations

**(9) Use of aeronautical charts and a magnetic compass for pilotage and dead reckoning**

- PHASE 1; 1.2.1 Sectional Charts
  - Latitude and Longitude
  - Chart Details
- PHASE 2; 2.1.2 Heading Indicator and Magnetic Compass
  - Heading Indicator
  - Turning Errors
  - Acceleration and Deceleration Errors
  - Deviation Errors
- PHASE 4; 4.1.1 Preflight and Inflight Cross-Country Calculations
  - Fuel Required and Range
  - Wind Triangle, Course and Heading
  - Ground Speed and Fuel Consumed
  - Distance and Time to Climb
  - Magnetic Heading and Ground Speeds
  - Determining the Wind
  - Distance Traveled and Indicated Airspeed
  - Off-Course Correction and Diverting to an Alternate

**(10) Use of air navigation facilities**

- PHASE 3; 3.1.1 Communications and Radar Services
  - Transponder Codes, Traffic Advisories and Radio Failure
- PHASE 3; 2.2.1 VOR Navigation
  - VOR Orientation
  - VORTAC/DME
- PHASE 3; 2.2.2 Estimating Your Position and Checking Your VOR
  - Off Course Indicators
  - Time and Distance
  - VOT

**(11) Aeronautical decision making and judgment**

PHASE 2; 2.6.2 Aeronautical Decision Making

Managing the Pilot Risk Factor

Hazardous Attitudes and Antidotes

PHASE 3; 3.3.3 Human Behavior

Human Needs

Defense Mechanisms

The Instructor Role in Human Relations

Effective Communication

**(12) Principles and functions of aircraft systems**

PHASE 2; 2.1.1 Pitot-Static Instruments

Airspeed Errors

Altimeter Errors

True Airspeed and Altitudes

PHASE 2; 2.1.2 Heading Indicator and Magnetic Compass

Heading Indicator

Turning Errors

Acceleration and Deceleration Errors

Deviation Errors

PHASE 4; 4.2.2 Airplane Systems

Fuel Systems

Engines

Propellers

Constant Speed Propellers

Engine Ignitions Systems

Electrical Systems

PHASE 4; 4.2.3 Engine Operations

Mixture

Overheating

Detonation and Pre-Ignition

PHASE 4; 4.2.4 Induction Icing and Cold Weather Operations

Induction and Impact Icing

Cold Weather Operations

**(13) Maneuvers, procedures, and emergency operations appropriate to the aircraft**

PHASE 2; 2.1.3 Instrument Flight

Basic Instrument Maneuvers

Unusual Attitudes

PHASE 2; 2.5.1 Steep Turns and Steep Spirals

The Whats and Whys of Steep Turns

Load Factor and You

How to Do Great Steep Turns

Performing Steep Spirals

PHASE 2; 2.5.2 Chandelles

Introduction to the Chandelle

How to Do Chandelles

Techniques for a Perfect Chandelle

- PHASE 2; 2.5.3 Lazy Eights
  - Introduction to Lazy Eights
  - How to Do Lazy Eights
  - Techniques for Perfect Lazy Eights
- PHASE 2; 2.5.4 Eight on Pylons
  - Introduction to Eights on Pylons
  - How to Do Eights on Pylons
  - Techniques for Perfect Eights on Pylons
- PHASE 2; 2.5.5 Power-off Approach
  - How to do Power-Off 180° Accuracy Approaches and Landings
- PHASE 2; 2.6.1 Teaching Aircraft Control
  - The Basics of Aircraft Control
- PHASE 2; 2.6.2 Aeronautical Decision Making
  - Managing the Pilot Risk Factor
  - Hazardous Attitudes and Antidotes
- PHASE 2; 2.6.3 Teaching Flight Maneuvers
  - Turns
  - Takeoffs and Landings
  - Rectangular Course
  - Turns Around a Point
  - S-Turns Across a Road
  - Chandelles
  - Lazy Eights
  - Eights on Pylons
- PHASE 4; 4.2.4 Induction Icing and Cold Weather Operations
  - Induction and Impact Icing
  - Cold Weather Operations
- PHASE 4; 4.2.5 Taxiing in the Wind and Collision Avoidance
  - Taxiing in the Wind

**(14) Night and high-altitude operations**

- PHASE 2; 2.1.3 Instrument Flight
  - Basic Instrument Maneuvers
  - Unusual Attitudes
- PHASE 2; 2.2.1 An Airplane's Performance Altitude
  - Finding Pressure Altitude
  - How Density Altitude Affects Performance
- PHASE 4; 4.2.6 Aeromedical Factors
  - Hypoxia
  - Oxygen
  - Alcohol, Hyperventilation, and Scuba Diving
  - Motion Sickness, Spatial Disorientation and Vision
- PHASE 4; 4.2.7 Visual Glide Slopes, Airport Markings and Lighting
  - 2 Bar and 3 Bar VASI
  - PAPI
  - Airport Markings
  - Airport Lighting
  - Segmented Circle

## **(15) Descriptions of and procedures for operating within the National Airspace System**

### **PHASE 1; 1.3.1 Airspace**

Airspace System and Class E Airspace  
Class D Airspace  
Class C Airspace  
Flying in and Around Class C Airspace  
Class B Airspace  
Flying in and Around Class B Airspace  
Class B Communications and Equipment  
Class A Airspace

### **PHASE 1; 1.3.2 Special Use Airspace**

Restricted and Warning Areas  
Alert Areas and MOA's

### **PHASE 1; 1.3.3 VFR Weather Minimums**

Visibility and Cloud Clearance  
Controlled Airspace  
Special VFR

### **PHASE 2; 2.2.4 Rules to Fly By**

Preflight Planning, Safety Belts and Oxygen  
Minimum Safe Altitudes, Aerobatic Flight and Night Flying  
Right of Way  
VFR Cruising Altitudes  
Speed Limits  
Light Gun Signals  
Transponders

### **PHASE 3; 3.1.1 Communications and Radar Services**

Non-Tower Airport Advisory, UNICOM  
ATIS, Radio Aids Box  
Transponder Codes, Traffic Advisories and Radio Failure

### **PHASE 4; 4.2.1 Preflight Planning**

Flight Plans  
Chart Supplement  
NOTAMs

## **CREDIT FOR PREVIOUS TRAINING (WHEN ENROLLING INTO PART 141 CURRICULUM)**

According to FAR 141.77(c), when you transfer from one FAA-approved school to another approved school, course credits you earned in your previous course of training may be credited for part of your training by your new school.

- Your new school may determine the amount of credit you are allowed by a knowledge test and a flight proficiency test
- Credit for aeronautical knowledge instruction may be determined by a knowledge test alone
- Maximum credit allowed is 50% of the curriculum requirements of your new school

If you transfer from other than an FAA-approved school, you may receive credit for the knowledge and flight experience. Up to a maximum of 25% of the curriculum requirements of the course to which you are transferring to may be credited.

**CREDIT FOR PREVIOUS TRAINING (WHEN ENROLLING INTO PART 61 CURRICULUM)**

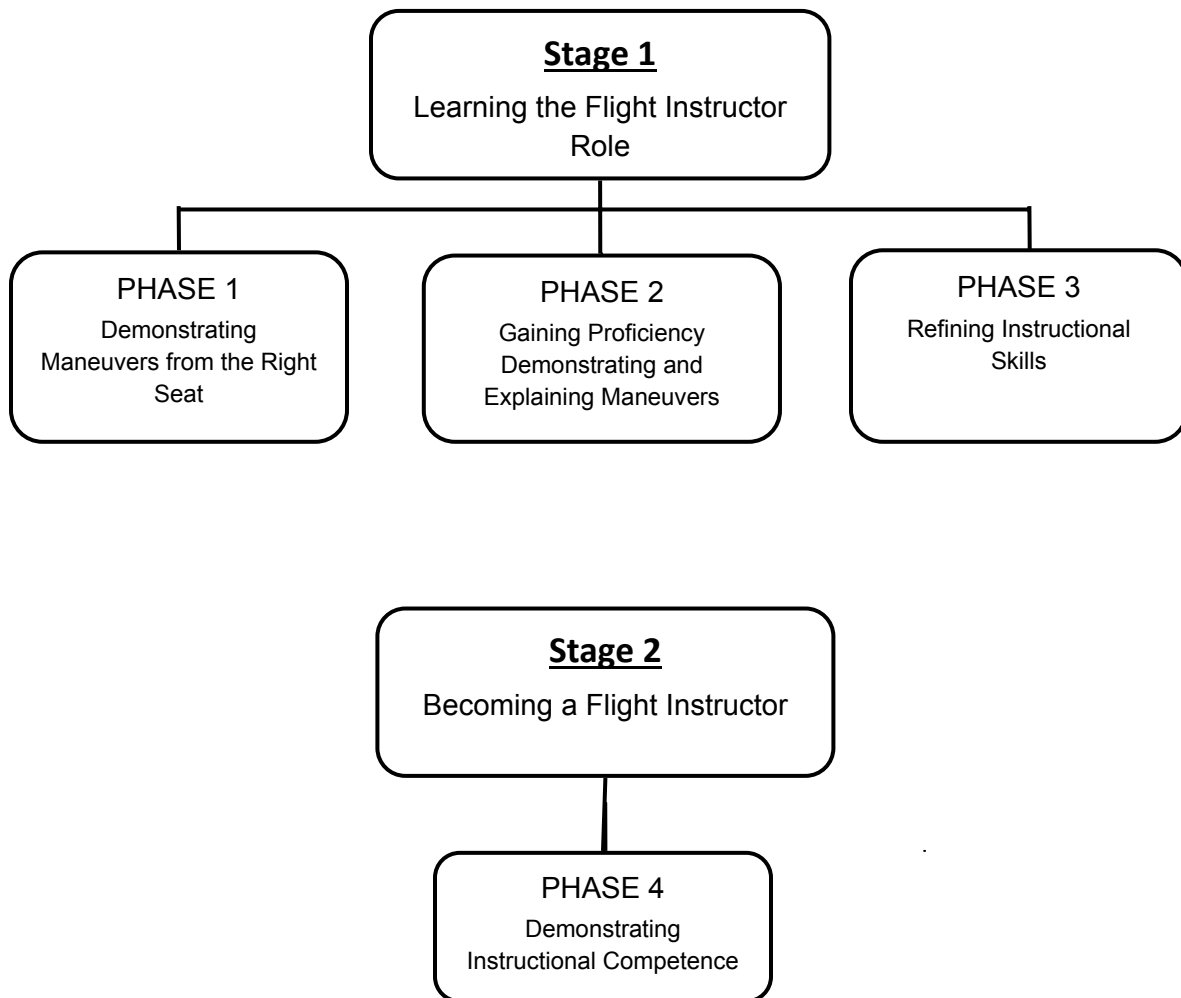
If you are enrolling into a Part 61 course, all flight training logged from an authorized instructor applies to the minimum required flight time under Part 61. Your new flight school

- Will evaluate your flight proficiency and knowledge in all required areas of operation and aeronautical knowledge
- Determine the appropriate starting point in the syllabus to continue your training

**GUARANTEE OF QUALITY**

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## SYLLABUS STRUCTURE



### STAGE 1 – *Learning the Flight Instructor Role* (3P)

#### Stage Objectives:

- a. Master flight control at instructor's cockpit position
- b. Perform Private Pilot maneuvers to standards
- c. Perform Commercial Pilot maneuvers to standards
- d. Perform Flight Instructor demonstration stalls to standards
- e. Integrate explanation of how a maneuver is performed while demonstrating it
- f. Incorporate maneuvers into scenarios
- g. Explain risks involved with each maneuver and describe methods of mitigating them
- h. Complete Spin Task (14 CFR Pt 141 App F 5.(b)(1)&(2) or 14 CFR Pt 61.183(i)(1)
- i. Complete FOI Ground lessons
- j. Complete FOI test

## PHASE 1 – *Demonstrating Maneuvers from the Right Seat* (6S)

### Phase Objectives:

- a. Introduce flight control from instructor's cockpit position
- b. Introduce and demonstrate all tasks
- c. Introduce explaining how to perform a maneuver while demonstrating it
- d. Introduce analyzing and correcting common errors with basic maneuvers
- e. Incorporate risk management considerations for each maneuver

## **Web-based KNOWLEDGE**

### **AERODYNAMICS**

### **SECTIONAL CHARTS**

### **AIRSPACE AND WEATHER MINIMUMS**

### **FEDERAL AVIATION REGULATIONS**

## **1.1 AERODYNAMICS**

**Objectives:** You will restudy the various principles of flight to make sure you have the knowledge necessary for instructing pilot trainees.

### **1.1.1 Lift and Stalls**

Lift  
Angle of Attack  
Stalls and Spins

### **1.1.2 Forces on an Aircraft**

Forces on an Aircraft  
Drag  
Climb Performance and Aircraft Axes  
Propellers and Left Turning Tendency

### **1.1.3 Wing Design and High-Lift Devices**

Wing Shape  
High Lift Devices

### **1.1.4 Maneuverability, Controllability and Stability**

Maneuverability and Controllability  
Stability  
Center of Gravity  
Lateral Stability



### **1.1.5 Maneuvering Flight**

- Turns and Forces in Turns
- Rate and Radius of Turns
- Load Factor
- Gear and Flap Configurations
- Maneuver Diagram
- Severe Turbulence

### **1.1.6 Airspeed Limitations, Vortices and Ground Effect**

- Airspeed Limitations
- Wing Tip Vortices
- Ground Effect

### **1.1.7 Multiengine Operations**

- Multiengine Operations

## **1.2 SECTIONAL CHARTS**

**Objective:** You will review charting concepts to make sure you are prepared to instruct new pilots on latitude/longitude and interpreting chart details and symbols so they can relate them to topographical features and objects on the ground.

### **1.2.1 Sectional Charts**

- Latitude and Longitude
- Chart Details

## **1.3 AIRSPACE AND WEATHER MINIMUMS**

**Objectives:** You will go back into the details of the National Airspace system and the VFR minimum weather requirements to make sure you are prepared to teach this information and its nuances to new pilots.

### **1.3.1 Airspace**

- Airspace System and Class E Airspace
- Class D Airspace
- Class C Airspace
- Flying in and Around Class C Airspace
- Class B Airspace
- Flying in and Around Class B Airspace
- Class B Communications and Equipment
- Class A Airspace

### **1.3.2 Special Use Airspace**

- Restricted and Warning Areas
- Alert Areas and MOA's

### **1.3.3 VFR Weather Minimums**

- Visibility and Cloud Clearance
- Controlled Airspace
- Special VFR

## **1.4 FEDERAL AVIATION REGULATIONS**

**Objectives:** You will delve into the regulations to the extent you will easily be able to interpret and explain them to the pilots you will train.

### **1.4.1 Documents You Need in Flight**

- Pilot Documents
- Aircraft Documents

### **1.4.2 Pilot Certificate Requirements and Limitations**

- Student Pilot Requirements and Limitations
- Recreational Pilots
- Private Pilots
- Commercial Pilots
- Flight Instructor Certificate Durations, Limitations and Responsibilities

### **1.4.3 FAA Knowledge and Practical Tests**

- Knowledge Tests
- Practical Tests

### **1.4.4 Flight Requirements and Limitations**

- Recency, Tailwheel Endorsements and Flight Reviews
- Pilot in Command Limitations
- Commercial Flights and Turbine-Powered Airplanes

### **1.4.5 Aircraft Maintenance and Equipment**

- Maintenance Requirements
- Minimum Equipment List

### **1.4.6 Rules to Fly By**

- Preflight Planning, Safety Belts and Oxygen
- Minimum Safe Altitudes, Aerobatic Flight and Night Flying
- Right of Way
- VFR Cruising Altitudes
- Speed Limits
- Light Gun Signals
- Transponders

### **1.4.7 Alcohol, Drugs, Emergencies and Notification Action**

- Alcohol and Drugs
- Emergency Actions and ELTs
- Accident and Incident Notification
- Address Change Notification

## **Scenario 1 – Learning Control from the Other Seat (1-1)**

### **Objective:**

- Introduce performing flight tasks from instructor's control position
- Identify task elements that may be difficult to perform from the instructor's control position
- Introduce demonstrating basic maneuvers while simultaneously explaining how to perform the maneuver

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Note unfamiliar visual sight picture
- Maintain heightened awareness that flight/engine controls are in different hands
- Observe parallax or obscured flight/engine instruments

## **Preflight Discussion**

### **New this scenario:**

- Preflight Inspection
- Cockpit Management
- Engine Starting
- Taxiing
- Airport, Runway and Taxiway Signs, Markings, and Lighting
- Before Takeoff Check
- Radio Communications and ATC Light Signals
- Traffic Patterns
- Normal and Crosswind Takeoff and Climb
- Normal and Crosswind Approach and Landing
- Go-Around/Rejected Landing
- Straight-and-Level Flight
- Level Turns
- Straight Climbs and Climbing Turns
- Straight Descents and Descending Turns
- Steep Turns
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Spin Awareness
- Postflight Procedures

## **Postflight Discussion**

## **Scenario 2 – Gaining Experience Flying from Instructor’s Seat (1-2)**

### **Objective:**

- Gain confidence in performing flight tasks from instructor’s control position
- Add more Private Pilot maneuvers
- Meet/exceed Private Pilot standards
- Expand skill demonstrating/explaining basic maneuvers

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Identify risks inherent while instructing each maneuver and appropriate mitigation
- Teach risks involved with phase of flight/maneuver and appropriate mitigation

## **Preflight Discussion**

### **New this scenario:**

- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Slip to a Landing
- Turns Around a Point
- S-Turns across a Road
- Systems and Equipment Malfunctions

### **Improving your skills:**

- \*Preflight Inspection
- \*Cockpit Management
- \*Engine Starting
- \*Taxiing
- \*Before Takeoff Check
- ^Radio Communications and ATC Light Signals
- ^Traffic Patterns
- \*Airport, Runway and Taxiway Signs, Markings, and Lighting
- Go-Around/Rejected Landing
- #Straight-and-Level Flight
- #Level Turns
- #Straight Climbs and Climbing Turns
- #Straight Descents and Descending Turns
- Steep Turns
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Spin Awareness
- \*Postflight Procedures

## **Postflight Discussion**

**Note:** The remaining scenarios will detail the following representing essential tasks that will be assessed but not individually listed with each scenario:

*Pre-takeoff/After Landing Ground Operations* encompassing tasks noted with \*

*Airport Operations* encompassing tasks noted with ^

*Fundamentals of Flight* encompassing tasks noted with #

### **Scenario 3 –Demonstrating and Explaining Private Pilot Maneuvers (1-3)**

#### **Objective:**

- Complete all Visual-Reference Private Pilot Maneuvers
- Meet/exceed standards with Private Pilot level maneuvers
- Provide insightful explanations of each maneuver while demonstrating them

#### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

#### **Where to go:**

- Training area

#### **How to get there:**

- Pilotage, DR, Electronic Navigation

#### **Planned deviations:**

- None

#### **Planned malfunctions:**

- As specified by tasks

#### **Risks (real or simulated):**

- Identify risks involved with the new tasks and describe mitigation techniques
- Identify areas for loss of collision avoidance awareness while instructing

### **Preflight Discussion**

#### **New this scenario:**

- Soft-Field Takeoff and Climb
- Soft-Field Approach and Landing
- Rectangular Course
- Emergency Descent
- Emergency Approach and Landing (Simulated)
- Emergency Equipment and Survival Gear

#### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 2, 7 tasks \**)
- Airport Operations (*Scenario 2, 2 tasks ^*)
- Fundamentals of Flight (*Scenario 2, 4 tasks #*)
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Go-Around/Rejected Landing
- Slip to a Landing
- S-Turns across a Road
- Steep Turns
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Spin Awareness

### **Postflight Discussion**

## **Scenario 4 – Improving Instructional Skill and Risk Management (1-4)**

### **Objective:**

- Introduce Private Pilot Instrument Reference Maneuvers
- Meet/exceed standards with *Improving your skills* maneuvers
- Introduce Commercial Pilot level maneuvers
- Introduce simulated common errors on *Improving your skills* maneuvers
- Refine ability to explain how to do a maneuver while demonstrating it

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Identify risks involved with the new tasks and describe mitigation techniques
- Identify areas for loss of collision avoidance awareness while instructing
- Identify risk areas for loss of situational awareness while instructing
- Teach risks involved with phase of flight/maneuver and appropriate mitigation

## **Preflight Discussion**

### **New this scenario:**

- Straight-and-Level Flight (IR)
- Constant Airspeed Climbs (IR)
- Constant Airspeed Descents (IR)
- Turns to Headings (IR)
- Recovery from Unusual Flight Attitudes (IR)
- Power-Off 180° Accuracy Approach and Landing
- Secondary Stalls (Demonstration)
- Accelerated Maneuver Stalls (Demonstration)
- Chandelles

### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Soft-Field Takeoff and Climb
- Soft-Field Approach and Landing
- Systems and Equipment Malfunctions
- Turns Around a Point
- Maneuvering During Slow Flight
- Spin Awareness
- Emergency Descent
- Emergency Approach and Landing (Simulated)

## **Postflight Discussion**

## **Scenario 5 – Building Flight and Instructional Skills (1-5)**

### **Objective:**

- Introduce steep spirals
- Sharpen techniques flying and explaining the *Improving your skills* maneuvers
- Detect and correct simulated common errors on *Improving your skills* maneuvers

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Identify risks involved with the new tasks and describe mitigation techniques
- Identify areas for loss of collision avoidance awareness while instructing
- Identify risk areas for loss of situational awareness while instructing
- Teach risks involved with phase of flight/maneuver and appropriate mitigation

## **Preflight Discussion**

### **New this scenario:**

- Steep Spirals

### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Straight-and-Level Flight (IR)
- Constant Airspeed Climbs (IR)
- Constant Airspeed Descents (IR)
- Turns to Headings (IR)
- Recovery from Unusual Flight Attitudes (IR)
- Power-Off 180° Accuracy Approach and Landing
- Secondary Stalls (Demonstration)
- Accelerated Maneuver Stalls (Demonstration)
- Spin Awareness
- Chandelles
- Normal and Crosswind Takeoff and Climb
- Normal and Crosswind Approach and Landing
- Emergency Approach and Landing (Simulated)

## **Postflight Discussion**

## Phase 1 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is "Explain"</i>	Instruction Given	Describe	Explain
Aerodynamic stalls			
Spins			
Propeller effects and left-turning tendency			
Flaps			
Center of Gravity and stability			
Load factor			
Wingtip vortices and avoiding wake turbulence			
Chart topographical features and airport symbols			
Identifying and requirements to fly in different classes of airspace			
VFR weather minimums			
Pilot and aircraft documents			
Pilot in command requirements			
Aircraft maintenance requirements			
Altitudes: minimum and cruising			
Alcohol and drug limitations			

## Phase 1 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"</i>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
<b>Risk management</b> <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
<b>Task management</b> <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
<b>Situational Awareness</b> <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
<b>Pre-takeoff ground operations</b>			
<b>Preflight inspection</b> <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
<b>Cockpit management</b> <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
<b>Engine starting</b> <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
<b>Taxiing</b> <i>Runway incursion procedures records taxi instructions, airport diagram, full attention to taxiing</i>			
<b>Airport, runway and taxiway signs, markings, and lighting</b> <i>Understands and complies with airport signs, markings and lighting</i>			
<b>Before takeoff check</b> <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			



## Phase 1 Proficiency Checklist *continued*

<b>Airport operations</b>			
Radio communications and ATC light signals <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
Traffic patterns <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
Normal and crosswind takeoff and climb <i>Checks configuration, lights, instruments, wind and power before TO, cross checks instruments in climb, <math>V_Y \pm 5</math> kt</i>			
Short-field takeoff and maximum performance climb <i>Checks configuration, lights, instruments, wind and power before TO, short-field liftoff, cross checks instruments in climb, <math>V_X \pm 5</math> kt until obstacle cleared</i>			
Soft-field takeoff and climb <i>Checks configuration, lights, instruments, wind and power before TO, soft-field liftoff, cross checks instruments in climb, <math>V_X</math> or <math>V_Y \pm 5</math> kt</i>			
Normal and crosswind approach and landing <i>Stabilized approach, A/S <math>\pm 5</math> kt, smooth roundout and touchdown, maintains X-W correction</i>			
Short-field approach and landing <i>Stabilized approach, A/S <math>\pm 5</math> kt, smooth roundout and touchdown within specified area, maintains X-W correction</i>			
Soft-field approach and landing <i>Stabilized approach, A/S <math>\pm 5</math> kt, smooth roundout and soft-field touchdown procedures, maintains X-W correction</i>			
Slip to a landing <i>Considers X-W, stabilized slip, precise ground track, smooth, timely transition to touchdown</i>			
Go-Around/Rejected Landing <i>Makes timely decision, climb power and pitch for <math>V_X/V_Y</math>, <math>\pm 5</math> kt, flaps &amp; gear up as appropriate</i>			
Power-off 180° accuracy approach and landing <i>Identifies key points, corrects for wind, coordinated, stabilized approach, lands specified area</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude <math>\pm 50</math> ft, rollout on heading <math>\pm 5^\circ</math></i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, leveloff <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, leveloff <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
<b>Performance maneuvers</b>			
Steep Turns <i>Smooth, coordinated, flight controls, bank <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 10^\circ</math></i>			
Steep Spirals <i>Coordinated controls, proper airspeed, power setting, constant radius around selected point</i>			
Chandelles <i>Proper entry airspeed, power setting, coordinated, max performance</i>			
<b>Ground reference maneuvers</b>			
Turns around a point <i>Suitable altitude, airspeed, reference point, corrects for wind, alt <math>\pm 100</math> ft, aware emergency options</i>			
S-turns across a road <i>Suitable altitude, airspeed, reference line, corrects for wind, alt <math>\pm 100</math> ft, aware emergency options</i>			
Rectangular course <i>Suitable altitude, airspeed, reference lines, corrects for wind, alt <math>\pm 100</math> ft, aware emergency options</i>			

## Phase 1 Proficiency Checklist *continued*

<b>Slow flight, stalls and spins</b>			
Maneuvering During Slow Flight <i>Entry alt so completed <math>\geq 1,500</math> ft AGL, Alt <math>\pm 50</math> ft, Hdg <math>\pm 10^\circ</math>, bank <math>\pm 5^\circ</math> (if turn), A/S <math>\pm 5/-0</math> kt</i>			
Power-On Stalls (Proficiency) <i>Entry alt so recovery <math>\geq 1,500</math> ft AGL, Hdg <math>\pm 10^\circ</math>, bank <math>\pm 5^\circ</math> (if turn), appropriate flap and gear up</i>			
Power-Off Stalls (Proficiency) <i>Entry alt so recovery <math>\geq 1,500</math> ft AGL, Hdg <math>\pm 10^\circ</math>, bank <math>\pm 5^\circ</math> (if turn), appropriate flap and gear dn</i>			
Secondary stalls (demonstration) <i>Entry alt so recovery <math>\geq 1,500</math> ft AGL, Hdg, appropriate flap and gear, improper stall recovery</i>			
Spin Awareness <i>Aerodynamic factors, flight situations, recovery procedures from unintentional spin</i>			
Accelerated maneuver stalls (demonstration) <i>Entry alt so recovery <math>\geq 3,000</math> ft AGL, A/S <math>&gt; V_A</math>, <math>20</math> kt <math>&gt; V_{S1}</math>, <math>45^\circ</math> bank</i>			
<b>Basic instrument maneuvers</b>			
Straight-and-level flight (IR) <i>Coordinated controls trimmed, Alt <math>\pm 100</math> ft, Hdg <math>\pm 10^\circ</math></i>			
Constant airspeed climbs (IR) <i>Coordinated controls trimmed, Hdg <math>\pm 10^\circ</math>, A/S <math>\pm 5</math> kt, level off Alt <math>\pm 50</math> ft</i>			
Constant airspeed descents (IR) <i>Coordinated controls trimmed, Hdg <math>\pm 10^\circ</math>, A/S <math>\pm 5</math> kt, level off Alt <math>\pm 50</math> ft</i>			
Turns to headings (IR) <i>Maintains Hdg <math>\pm 5^\circ</math>, Alt <math>\pm 50</math> ft</i>			
Recovery from unusual flight attitudes (IR) <i>Applies correct recovery control inputs using only instrument reference</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>Uses recommended procedures while maintaining control</i>			
Emergency descent <i>Sets configuration, A/S <math>\pm 10</math> kt, maintains <math>\pm 0/-10</math> kt, levels off <math>\pm 100</math> ft</i>			
Emergency approach and landing (simulated) <i>Analyzes situation, best glide <math>\pm 10</math> kt, sets up for selects suitable landing area</i>			
Emergency equipment and survival gear <i>When, where, and how to use</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

### Phase 1 completion standards:

You have completed Phase 1 when you

- Review your home study results with your instructor
- Show ability to confidently control the aircraft from the instructor's seat
- Describe maneuver elements while demonstrating them
- Start analyzing maneuver errors and correcting simulated by the instructor
- Describe the risks of each maneuver and mitigation strategies
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Complete the Phase 1 Progress Check

### INSTRUCTOR NOTES:

## **Scenario 6 – Adding the Remaining Maneuvers and Phase Check (1-6)**

### **Objective:**

Introduce Lazy Eights, Eights on Pylons, Cross-Controlled Stalls and Elevator Trim Stalls  
Expand Spin Awareness discussion in relation to *New this scenario* stall tasks  
Continue developing technique with flying and explaining the *Improving your skills* maneuvers  
Detect and correct simulated common errors on *Improving your skills* maneuvers

### **Purpose/pressures (real or simulated):**

Obtaining Flight Instructor Certificate  
Aviation Employment

### **Where to go:**

Training area

### **How to get there:**

Pilotage, DR, Electronic Navigation

### **Planned deviations:**

None

### **Planned malfunctions:**

As specified by tasks

### **Risks (real or simulated):**

Identify risks involved with the new tasks and describe mitigation techniques  
Identify areas for loss of collision avoidance awareness while instructing  
Identify risk areas for loss of situational awareness while instructing  
Teach risks involved with phase of flight/maneuver and appropriate mitigation

## **Preflight Discussion**

### **New this scenario:**

Lazy Eights  
Eights on Pylons  
Cross-controlled Stalls (Demonstration)  
Elevator Trim Stalls (Demonstration)

### **Improving your skills:**

Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)  
Airport Operations (*Scenario 1-2 ^*)  
Fundamentals of Flight (*Scenario 1-2 #*)  
Power-On Stalls (Proficiency)  
Spin Awareness  
Steep Spirals  
Chandelles  
Soft-Field Takeoff and Climb  
Soft-Field Approach and Landing  
Systems and Equipment Malfunctions  
Emergency Descent  
Emergency Approach and Landing (Simulated)

## **Postflight Discussion**

## Phase 1 *\*Progress Check\**

<p>*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.</p> <p><i>Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"</i></p>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
<b>Risk management</b> <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
<b>Task management</b> <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
<b>Situational Awareness</b> <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
<b>Pre-takeoff ground operations</b>			
<b>Preflight inspection</b> <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
<b>Cockpit management</b> <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
<b>Engine starting</b> <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
<b>Taxiing</b> <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
<b>Airport, runway and taxiway signs, markings, and lighting</b> <i>Understands and complies with airport signs, markings and lighting</i>			
<b>Before takeoff check</b> <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			
<b>Airport operations</b>			
<b>Radio communications and ATC light signals</b> <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
<b>Traffic patterns</b> <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
<b>Soft-field takeoff and climb</b> <i>Checks configuration, lights, instruments, wind and power before TO, soft-field liftoff, cross checks instruments in climb, <math>V_X</math> or <math>V_Y \pm 5</math> kt</i>			
<b>Soft-field approach and landing</b> <i>Stabilized approach, <math>A/S \pm 5</math> kt, smooth roundout and soft-field touchdown procedures, maintains X-W correction</i>			
<b>Fundamentals of flight</b>			
<b>Straight-and-Level Flight</b> <i>Smooth, coordinated, effective use of flight controls, heading <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft</i>			
<b>Level Turns</b> <i>Smooth, coordinated, effective use of flight controls, altitude <math>\pm 50</math> ft, rollout on heading <math>\pm 5^\circ</math></i>			
<b>Straight Climbs and Climbing Turns</b> <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
<b>Straight Descents and Descending Turns</b> <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			

## Phase 1 *\*Progress Check\* continued*

<b>Performance maneuvers</b>			
Steep Spirals <i>Coordinated controls, proper airspeed, power setting, constant radius around selected point</i>			
Chandelles <i>Proper entry airspeed, power setting, coordinated, max performance</i>			
Lazy eights <i>~30° max bank, constant change pitch and roll, ±100 ft, ±10 kt, ±10° heading</i>			
<b>Ground reference maneuvers</b>			
Eights on pylons <i>Suitable pylons, pivotal altitude, entry max bank 30°-40°, corrects to maintain line of sight, coord.</i>			
<b>Slow flight, stalls and spins</b>			
Power-On Stalls (Proficiency) <i>Entry alt so recovery ≥ 1,500 ft AGL, Hdg ±10°, bank ±10° (if turn), appropriate flap and gear up</i>			
Cross-controlled stalls (demonstration) <i>Entry alt so recovery ≥ 3,000 ft AGL</i>			
Elevator trim stalls (demonstration) <i>Entry alt so recovery ≥ 1,500 ft AGL, trimmed for approach glide, landing configuration, full power, allowing to pitch up to stall</i>			
Spin Awareness <i>Aerodynamic factors, flight situations, recovery procedures from unintentional spin</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>Uses recommended procedures while maintaining control</i>			
Emergency descent <i>Sets configuration, A/S ±10 kt, maintains +0/-10 kt, levels off ±100 ft</i>			
Emergency approach and landing (simulated) <i>Analyzes situation, best glide ±10 kt, sets up for selects suitable landing area</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

## PHASE 2 – *Gaining Proficiency Demonstrating and Explaining Maneuvers* (3S)

### Phase Objectives:

- a. Demonstrate all maneuvers to standards
- b. Simultaneously explain all maneuvers while performing them
- c. Introduce using scenarios for maneuvers
- d. Introduce analyzing and correcting common errors with advanced maneuvers

## **Web-based KNOWLEDGE**

### **FLIGHT INSTRUMENTS**

### **AIRCRAFT PERFORMANCE**

### **WEATHER**

### **WEIGHT AND BALANCE**

### **COMMERCIAL MANEUVERS**

### **TEACHING MANEUVERS**

## **2.1 FLIGHT INSTRUMENTS**

**Objectives:** You will reacquaint yourself with the details, operating concepts and anomalies of the flight instruments. You will also review aircraft control by instrument reference and recovery from unusual flight attitudes.

### **2.1.1 Pitot-Static Instruments**

Airspeed Errors  
Altimeter Errors  
True Airspeed and Altitudes

### **2.1.2 Heading Indicator and Magnetic Compass**

Heading Indicator  
Turning Errors  
Acceleration and Deceleration Errors  
Deviation Errors

### **2.1.3 Instrument Flight**

Basic Instrument Maneuvers  
Unusual Attitudes

## **2.2 AIRCRAFT PERFORMANCE**

**Objectives:** You will review aircraft performance factors and calculations to set the instructional foundation for these topics.

### **2.2.1 An Airplane's Performance Altitude**

- Finding Pressure Altitude
- How Density Altitude Affects Performance

### **2.2.2 Calculating Performance**

- Checking the Ground Roll
- Takeoff Distance to Clear an Obstacle
- Climb Performance
- Glide Distance
- Crosswind Component
- Landing Distance

## **2.3 WEATHER**

**Objectives:** You will delve into weather theory, hazards, products, and tools in order to reach the knowledge level necessary for preparing new pilots to successfully manage environmental risks.

### **2.3.1 The Atmosphere, Pressure Systems and Fronts**

- Standard Atmosphere
- Pressure Systems and Wind
- Fronts
- Stability and Clouds

### **2.3.2 Clouds, Moisture and Stability**

- Moisture
- Stability
- Unstable Air
- Stable Air
- Temperature Inversions

### **2.3.3 Weather Hazards**

- Fog
- Ice and Freezing Rain
- Thunderstorms
- Microbursts
- Windshear
- Turbulence
- Mountain Wave

### **2.3.4 Current Weather**

- Surface Aviation Weather Reports
- METAR Report Rules
- Automatic Surface Observations
- PIREPs

### **2.3.5 Forecasts**

- Terminal Forecasts
- Area Forecasts
- Winds and Temperatures Aloft

### **2.3.6 Weather Charts**

- Constant Pressure Charts
- Surface Analysis Charts
- Weather Depiction Charts
- Low Level Prognostic Charts

### **2.3.7 Aids for Avoiding Hazardous Weather**

- Weather Advisories
- Radar Weather Reports
- Severe Outlook Chart

## **2.4 WEIGHT AND BALANCE**

**Objectives:** You will review weight and balance principles and gain exercise doing loading calculations to enable effective instruction for new pilots.

### **2.4.1 Weight and Balance Principles and Calculation**

- Weight and Balance Principles
- Locating the Center of Gravity
- Using Graphs to Determine Center of Gravity
- Finding New CG When Adding Weight
- Shifting Weight to Move the CG

## **2.5 COMMERCIAL MANEUVERS**

**Objectives:** You will review the techniques and standards for several maneuvers tested on the Commercial Pilot practical test.

### **2.5.1 Steep Turns and Steep Spirals**

- The Whats and Whys of Steep Turns
- Load Factor and You
- How to Do Great Steep Turns
- Performing Steep Spirals

### **2.5.2 Chandelles**

- Introduction to the Chandelle
- How to Do Chandelles
- Techniques for a Perfect Chandelle

### **2.5.3 Lazy Eights**

- Introduction to Lazy Eights
- How to Do Lazy Eights
- Techniques for Perfect Lazy Eights

### **2.5.4 Eights on Pylons**

- Introduction to Eights On Pylons
- How to Do Eights On Pylons
- Techniques for Perfect Eights On Pylons

### **2.5.5 Power-off Approach**

- How to do Power-Off 180° Accuracy Approaches and Landings



## **2.6 TEACHING MANEUVERS**

**Objectives:** You will learn instructional concepts and techniques for various flight maneuvers and review the information on Aeronautical Decision Making.

### **2.6.1 Teaching Aircraft Control**

The Basics of Aircraft Control

### **2.6.2 Aeronautical Decision Making**

Managing the Pilot Risk Factor

Hazardous Attitudes and Antidotes

### **2.6.3 Teaching Flight Maneuvers**

Turns

Takeoffs and Landings

Rectangular Course

Turns Around a Point

S-Turns Across a Road

Chandelles

Lazy Eights

Eights on Pylons

## **Scenario 1 – Refining Commercial Pilot Maneuvers and Stalls (2-1)**

### **Objective:**

- Meet defined skill standards with each task
- Polish skill demonstrating and explaining task maneuvers
- Refine ability to detect and correct simulated maneuver common errors
- Develop simple scenarios to incorporate listed tasks and identify associated risks

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Teach risks involved with phase of flight/maneuver and appropriate mitigation
- Identify areas for loss of collision avoidance awareness while instructing
- Identify risk areas for loss of situational awareness while instructing

## **Preflight Discussion**

### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Lazy Eights
- Eights on Pylons
- Power-On Stalls (Proficiency)
- Cross-controlled Stalls (Demonstration)
- Elevator Trim Stalls (Demonstration)
- Spin Awareness
- Slip to a Landing
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Go-Around/Rejected Landing
- Power-Off 180° Accuracy Approach and Landing

## **Postflight Discussion**

## **Scenario 2 – Sharpening Short/Soft Field Ops and Ground Reference Maneuvers (2-2)**

### **Objective:**

- Meet defined skill standards with each task
- Polish skill demonstrating and explaining task maneuvers
- Refine ability to detect and correct simulated maneuver common errors
- Develop simple scenarios to incorporate listed tasks and identify associated risks

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Teach risks involved with phase of flight/maneuver and appropriate mitigation
- Identify areas for loss of collision avoidance awareness while instructing
- Identify risk areas for loss of situational awareness while instructing

## **Preflight Discussion**

### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Soft-Field Takeoff and Climb
- Soft-Field Approach and Landing
- Go-Around/Rejected Landing
- Slip to a Landing
- Power-Off 180° Accuracy Approach and Landing
- Steep Turns
- Rectangular Course
- S-Turns across a Road
- Turns Around a Point
- Eights on Pylons
- Emergency Approach and Landing (Simulated)
- Emergency Descent

## **Postflight Discussion**

### **Scenario 3 – Building Confidence Demonstrating Commercial Maneuvers (2-3)**

#### **Scenario Objectives:**

- Meet defined skill standards with each task
- Polish skill demonstrating and explaining task maneuvers
- Continue detecting and correcting simulated maneuver common errors
- Continue developing appropriate scenarios for maneuvers

#### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

#### **Where to go:**

- Training area

#### **How to get there:**

- Pilotage, DR, Electronic Navigation

#### **Planned deviations:**

- None

#### **Planned malfunctions:**

- As specified by tasks

#### **Risks (real or simulated):**

- Teach risks involved with phase of flight/maneuver and appropriate mitigation techniques
- Identify enhanced risk areas due to the instructional environment
- Develop mitigation strategies for enhanced risk due to the instructional environment

#### **Preflight Discussion**

##### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Power-Off 180° Accuracy Approach and Landing
- Steep Spirals
- Chandelles
- Lazy Eights
- Eights on Pylons
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Accelerated Maneuver Stalls (Demonstration)
- Spin Awareness
- Emergency Equipment and Survival Gear

#### **Postflight Discussion**

## Phase 2 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is “Explain”</i>	Instruction Given	Describe	Explain
Pitot-static instrument operation/errors			
True/indicated airspeed and altitude			
Heading indicator and compass			
Weather systems and hazards			
Weather products			
Aircraft performance			
Weight and balance			
Fundamental maneuvers			
Takeoffs and landings			
Ground reference maneuvers			
Performance maneuvers			
Control using the flight instruments			

## Phase 2 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is “Perform” or “Manage/Decide”</i>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
Risk management <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
Situational Awareness <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
Task management <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
Controlled flight into terrain awareness (CFIT) <i>Identifies those areas of an instructional flight with elevated CFIT risk</i>			
<b>Pre-takeoff Ground Operations</b>			
Preflight inspection <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
Cockpit management <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
Engine starting <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
Taxiing <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
Airport, runway and taxiway signs, markings, and lighting <i>Understands and complies with airport signs, markings and lighting</i>			
Before takeoff check <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			

## Phase 2 Proficiency Checklist *continued*

<b>Airport operations</b>			
Radio communications and ATC light signals <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
Traffic patterns <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
Short-field takeoff and maximum performance climb <i>PTS Standards</i>			
Soft-field takeoff and climb <i>PTS Standards</i>			
Short-field approach and landing <i>PTS Standards</i>			
Soft-field approach and landing <i>PTS Standards</i>			
Slip to a landing <i>PTS Standards</i>			
Go-Around/Rejected Landing <i>PTS Standards</i>			
Power-off 180° accuracy approach and landing <i>PTS Standards</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude <math>\pm 50</math> ft, rollout on heading <math>\pm 5^\circ</math></i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
<b>Performance maneuvers</b>			
Steep Turns <i>PTS Standards</i>			
Steep Spirals <i>PTS Standards</i>			
Chandelles <i>PTS Standards</i>			
Lazy eights <i>PTS Standards</i>			
<b>Ground reference maneuvers</b>			
Turns around a point <i>PTS Standards</i>			
S-turns across a road <i>PTS Standards</i>			
Rectangular course <i>PTS Standards</i>			
Eights on pylons <i>PTS Standards</i>			

**Phase 2 Proficiency Checklist *continued***

<b>Slow flight, stalls and spins</b>			
Power-On Stalls (Proficiency) <i>PTS Standards</i>			
Power-Off Stalls (Proficiency) <i>PTS Standards</i>			
Cross-controlled stalls (demonstration) <i>PTS Standards</i>			
Elevator trim stalls (demonstration) <i>PTS Standards</i>			
Spin Awareness <i>PTS Standards</i>			
Accelerated maneuver stalls (demonstration) <i>PTS Standards</i>			
<b>Emergency operations</b>			
Emergency descent <i>PTS Standards</i>			
Emergency approach and landing (simulated) <i>PTS Standards</i>			
Emergency equipment and survival gear <i>PTS Standards</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

**Phase 2 completion standards:**

You have completed Phase 2 when you

- Review your home study results with your instructor
- Demonstrate all maneuvers to standards
- Begin using scenarios to incorporate maneuvers
- Simultaneously explain each maneuver while demonstrating it
- Start analyzing and correcting errors with advanced maneuvers
- Continue assessing the risks of each maneuver and developing mitigation strategies
- Achieve a grade of “Perform” or “Manage/Decide” on all Phase Proficiency Checklist tasks
- Complete the Phase 2 Progress Check

**INSTRUCTOR NOTES:**

## **Scenario 4 – Demonstrating/Explaining Maneuvers and Phase Check (2-4)**

### **Scenario Objectives:**

- Meet defined skill standards with each task
- Explain each task maneuver while demonstrating it
- Evaluate simulated student maneuver performance correcting simulated errors
- Use scenarios effectively

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Teach risks involved with phase of flight/maneuver and appropriate mitigation techniques
- Identify enhanced risk areas due to the instructional environment
- Employ mitigation strategies for enhanced risk due to the instructional environment

## **Preflight Discussion**

### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Soft-Field Takeoff and Climb
- Soft-Field Approach and Landing
- Slip to a Landing
- Go-Around/Rejected Landing
- Power-Off 180° Accuracy Approach and Landing
- Steep Spirals
- Chandelles
- Lazy Eights
- S-Turns Across a Road
- Eights on Pylons
- Cross-controlled Stalls (Demonstration)
- Elevator Trim Stalls (Demonstration)
- Secondary Stalls (Demonstration)
- Accelerated Maneuver Stalls (Demonstration)
- Spin Awareness
- Emergency Approach and Landing (Simulated)
- Systems and Equipment Malfunctions
- Emergency Descent

## **Postflight Discussion**



## Phase 2 *\*Progress Check\**

<p><b>*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.</b></p> <p><i>Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"</i></p>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
<b>Risk management</b> <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
<b>Situational Awareness</b> <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
<b>Task management</b> <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
<b>Controlled flight into terrain awareness (CFIT)</b> <i>Identifies those areas of an instructional flight with elevated CFIT risk</i>			
<b>Pre-takeoff Ground Operations</b>			
<b>Preflight inspection</b> <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
<b>Cockpit management</b> <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
<b>Engine starting</b> <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
<b>Taxiing</b> <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
<b>Airport, runway and taxiway signs, markings, and lighting</b> <i>Understands and complies with airport signs, markings and lighting</i>			
<b>Before takeoff check</b> <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			
<b>Airport operations</b>			
<b>Radio communications and ATC light signals</b> <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
<b>Traffic patterns</b> <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
<b>Short-field takeoff and maximum performance climb</b> <i>Checks configuration, lights, instruments, wind and power before TO, short-field liftoff, cross checks instruments in climb, <math>V_X \pm 5</math> kt until obstacle cleared</i>			
<b>Soft-field takeoff and climb</b> <i>Checks configuration, lights, instruments, wind and power before TO, soft-field liftoff, cross checks instruments in climb, <math>V_X</math> or <math>V_Y \pm 5</math> kt</i>			
<b>Short-field approach and landing</b> <i>Stabilized approach, A/S <math>\pm 5</math> kt, smooth roundout and touchdown within specified area, maintains X-W correction</i>			
<b>Soft-field approach and landing</b> <i>Stabilized approach, A/S <math>\pm 5</math> kt, smooth roundout and soft-field touchdown procedures, maintains X-W correction</i>			
<b>Slip to a landing</b> <i>Considers X-W, stabilized slip, precise ground track, smooth, timely transition to touchdown</i>			
<b>Go-Around/Rejected Landing</b> <i>Makes timely decision, climb power and pitch for <math>V_X/V_Y</math>, A/S <math>\pm 5</math> kt, flaps &amp; gear up as appropriate</i>			

## Phase 2 \*Progress Check\* continued

Power-off 180° accuracy approach and landing <i>Identifies key points, corrects for wind, coordinated, stabilized approach, lands specified area</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude <math>\pm 50</math> ft, rollout on heading <math>\pm 5^\circ</math></i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
<b>Performance maneuvers</b>			
Steep Spirals <i>Coordinated controls, proper airspeed, power setting, constant radius around selected point</i>			
Chandelles <i>Proper entry airspeed, power setting, coordinated, max performance</i>			
Lazy eights <i><math>\sim 30^\circ</math> max bank, constant change pitch and roll, <math>\pm 100</math> ft, <math>\pm 10</math> kt, <math>\pm 10^\circ</math> heading</i>			
<b>Ground reference maneuvers</b>			
S-turns across a road <i>Suitable altitude, airspeed, reference line, corrects for wind, alt <math>\pm 100</math> ft, aware emergency options</i>			
Eights on pylons <i>Suitable pylons, pivotal altitude, entry max bank <math>30^\circ</math>-<math>40^\circ</math>, corrects to maintain line of sight, coord.</i>			
<b>Slow flight, stalls and spins</b>			
Cross-controlled stalls (demonstration) <i>Entry alt so recovery <math>\geq 3,000</math> ft AGL</i>			
Elevator trim stalls (demonstration) <i>Entry alt so recovery <math>\geq 1,500</math> ft AGL, trimmed for approach glide, landing configuration, full power, allowing to pitch up to stall</i>			
Secondary stalls (demonstration) <i>Entry alt so recovery <math>\geq 1,500</math> ft AGL, Hdg, appropriate flap and gear, improper stall recovery</i>			
Spin Awareness <i>Aerodynamic factors, flight situations, recovery procedures from unintentional spin</i>			
Accelerated maneuver stalls (demonstration) <i>Entry alt so recovery <math>\geq 3,000</math> ft AGL, <math>A/S &gt; V_A</math>, <math>20</math> kt <math>&gt; V_{S1}</math>, <math>45^\circ</math> bank</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>Uses recommended procedures while maintaining control</i>			
Emergency descent <i>Sets configuration, <math>A/S \pm 10</math> kt, maintains <math>+0/-10</math> kt, levels off <math>\pm 100</math> ft</i>			
Emergency approach and landing (simulated) <i>Analyzes situation, best glide <math>\pm 10</math> kt, sets up for selects suitable landing area</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

### PHASE 3 – *Refining Instructional Skills* (3S)

#### Phase Objectives:

- a. Introduce planning instructional flight
- b. Expand scenario development for all maneuvers
- c. Refine maneuver error analysis and correction

## **Web-based KNOWLEDGE**

### **COMMUNICATIONS AND RADAR SERVICES**

#### **RADIO NAVIGATION**

#### **FUNDAMENTALS OF INSTRUCTING**

### **3.1 COMMUNICATIONS AND RADAR SERVICES**

**Objective:** You will review communications concepts and techniques necessary to teach safe and effective operations around airports and in the National Airspace System.

#### **3.1.1 Communications and Radar Services**

Non-Tower Airport Advisory, UNICOM  
ATIS, Radio Aids Box  
Transponder Codes, Traffic Advisories and Radio Failure

### **3.2 RADIO NAVIGATION**

**Objective:** You will review the basics of ground based VOR systems, testing accuracy and estimating your position.

#### **3.2.1 VOR Navigation**

VOR Orientation  
VORTAC/DME

#### **3.2.2 Estimating Your Position and Checking Your VOR**

Off Course Indicators  
Time and Distance  
VOT

### **3.3 FUNDAMENTALS OF INSTRUCTING**

**Objective:** You will learn the concepts of human behavior, effective communication, the learning process, assessing performance, and risk management essential for effective teaching and responsible flight instruction.

### **3.3.1 The Learning Process**

- Characteristics of Learning
- Principles of Learning
- Perceptions
- Insights
- Motivation
- Levels of Learning
- Domains of Learning

### **3.3.2 Physical Skills, Memory, and Transfer of Learning**

- Learning Skills
- Memory
- Forgetting and Retention
- Transfer of Learning

### **3.3.3 Human Behavior**

- Human Needs
- Defense Mechanisms
- The Instructor Role in Human Relations
- Effective Communication

### **3.3.4 The Teaching Process**

- Teaching Steps
- Lesson Sequence
- Lecture
- Cooperative or Group Learning
- Guided Discussion
- Demonstration/Performance
- Computer Based Training

### **3.3.5 Critique, Evaluation and Instructional Aids**

- The Instructor As a Critic
- Oral Quizzing
- Written Tests
- Performance Tests
- Instructional Aids

### **3.3.6 Flight Instructor Responsibilities**

- Professionalism
- Helping Student Pilots Learn
- Endorsing a Student for Solo Flight
- The Flight Instructor as a Practical Psychologist

### **3.3.7 Flight Instruction and Planning Lessons**

- Techniques of Flight Instruction
- Obstacles to Learning
- Identifying Blocks of Learning
- Lesson Plans

### **Scenario 1 Delivering a Private Pilot Flight Lesson (3-1)**

#### **Objective:**

- Plan an instructional flight covering the assigned tasks
- Introduce some maneuvers as new to the pilot being trained
- Evaluate simulated student performance and correct errors on maneuvers previously introduced

#### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

#### **Where to go:**

- Training area

#### **How to get there:**

- Pilotage, DR, Electronic Navigation

#### **Planned deviations:**

- None

#### **Planned malfunctions:**

- As specified by tasks

#### **Risks (real or simulated):**

- Incorporate scenarios to encourage student risk analysis and mitigation strategies
- Demonstrate pilot-in-command level risk management of training scenario

### **Preflight Discussion**

#### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Normal and Crosswind Takeoff and Climb
- Normal and Crosswind Approach and Landing
- Slip to a Landing
- Go-Around/Rejected Landing
- Steep Turns
- Rectangular Course
- S-Turns across a Road
- Turns Around a Point
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Straight-and-Level Flight (IR)
- Constant Airspeed Climbs (IR)
- Constant Airspeed Descents (IR)
- Turns to Headings (IR)
- Recovery from Unusual Flight Attitudes (IR)
- Emergency Approach and Landing (Simulated)
- Systems and Equipment Malfunctions
- Emergency Descent

### **Postflight Discussion**

## **Scenario 2 – Delivering a Commercial Pilot Flight Lesson (3-2)**

### **Objective:**

- Plan an instructional flight covering the assigned tasks
- Introduce some maneuvers as new to the pilot being trained
- Evaluate simulated student performance and correct errors on maneuvers previously introduced

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Incorporate scenarios to encourage student risk analysis and mitigation strategies
- Demonstrate pilot-in-command level risk management of training scenario

## **Preflight Discussion**

### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Soft-Field Takeoff and Climb
- Soft-Field Approach and Landing
- Power-Off 180° Accuracy Approach and Landing
- Steep Spirals
- Chandelles
- Lazy Eights
- Eights on Pylons
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Accelerated Maneuver Stalls (Demonstration)
- Emergency Approach and Landing (Simulated)
- Systems and Equipment Malfunctions
- Emergency Equipment and Survival Gear
- Emergency Descent

## **Postflight Discussion**

### Phase 3 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is “Explain”</i>	Instruction Given	Describe	Explain
Non-tower airport communications			
Radar services/transponder codes			
Radio failure			
VOR use			
Learning process			
Memory, transfer of learning			
Human behavior			
Teaching process			
Evaluation and assessment			
CFI responsibilities			
Techniques of flight instruction			
Lesson planning			

### Phase 3 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is “Perform” or “Manage/Decide”</i>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
Risk management <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
Situational Awareness <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
Task management <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
Controlled flight into terrain awareness (CFIT) <i>Identifies those areas of an instructional flight with elevated CFIT risk</i>			
<b>Pre-takeoff Ground Operations</b>			
Preflight inspection <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
Cockpit management <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
Engine starting <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
Taxiing <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
Airport, runway and taxiway signs, markings, and lighting <i>Understands and complies with airport signs, markings and lighting</i>			
Before takeoff check <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			

### Phase 3 Proficiency Checklist *continued*

<b>Airport operations</b>			
Radio communications and ATC light signals <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
Traffic patterns <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
Normal and crosswind takeoff and climb <i>PTS Standards</i>			
Short-field takeoff and maximum performance climb <i>PTS Standards</i>			
Soft-field takeoff and climb <i>PTS Standards</i>			
Normal and crosswind approach and landing <i>PTS Standards</i>			
Short-field approach and landing <i>PTS Standards</i>			
Soft-field approach and landing <i>PTS Standards</i>			
Slip to a landing <i>PTS Standards</i>			
Go-Around/Rejected Landing <i>PTS Standards</i>			
Power-off 180° accuracy approach and landing <i>PTS Standards</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude <math>\pm 50</math> ft, rollout on heading <math>\pm 5^\circ</math></i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
<b>Performance maneuvers</b>			
Steep Turns <i>PTS Standards</i>			
Steep Spirals <i>PTS Standards</i>			
Chandelles <i>PTS Standards</i>			
Lazy eights <i>PTS Standards</i>			
<b>Ground reference maneuvers</b>			
Turns around a point <i>PTS Standards</i>			
S-turns across a road <i>PTS Standards</i>			
Rectangular course <i>PTS Standards</i>			
Eights on pylons <i>PTS Standards</i>			



### Phase 3 Proficiency Checklist *continued*

<b>Slow flight, stalls and spins</b>			
Maneuvering During Slow Flight <i>PTS Standards</i>			
Power-On Stalls (Proficiency) <i>PTS Standards</i>			
Power-Off Stalls (Proficiency) <i>PTS Standards</i>			
Accelerated maneuver stalls (demonstration) <i>PTS Standards</i>			
<b>Basic instrument maneuvers</b>			
Straight-and-level flight (IR) <i>PTS Standards</i>			
Constant airspeed climbs (IR) <i>PTS Standards</i>			
Constant airspeed descents (IR) <i>PTS Standards</i>			
Turns to headings (IR) <i>PTS Standards</i>			
Recovery from unusual flight attitudes (IR) <i>PTS Standards</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>PTS Standards</i>			
Emergency descent <i>PTS Standards</i>			
Emergency approach and landing (simulated) <i>PTS Standards</i>			
Emergency equipment and survival gear <i>PTS Standards</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

### Phase 3 completion standards:

You have completed Phase 3 when you

- Review your home study results with your instructor
- Demonstrate all maneuvers to standards
- Demonstrate planning a primary level instructional flight
- Develop scenarios to incorporate all maneuvers in this phase
- Demonstrate detection of common maneuver errors and provide corrective instruction
- Achieve a grade of “Perform” or “Manage/Decide” on all Phase Proficiency Checklist tasks
- Complete the Phase 3 Progress Check

### INSTRUCTOR NOTES:

### **Scenario 3 – Delivering an Advanced Pilot Flight Lesson and Phase/Stage Check (3-3)**

#### **Objective:**

- Plan an instructional flight covering the assigned tasks
- Introduce some maneuvers as new to the pilot being trained
- Evaluate simulated student performance and correct errors on maneuvers previously introduced
- Conduct Phase/Stage progress check

#### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

#### **Where to go:**

- Training area

#### **How to get there:**

- Pilotage, DR, Electronic Navigation

#### **Planned deviations:**

- None

#### **Planned malfunctions:**

- As specified by tasks

#### **Risks (real or simulated):**

- Incorporate scenarios to encourage student risk analysis and mitigation strategies
- Demonstrate pilot-in-command level risk management of training scenario

### **Preflight Discussion**

#### **Improving your skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Normal and Crosswind Takeoff and Climb
- Normal and Crosswind Approach and Landing
- Go-Around/Rejected Landing
- Power-Off 180° Accuracy Approach and Landing
- Lazy Eights
- Eights on Pylons
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Cross-controlled Stalls (Demonstration)
- Elevator Trim Stalls (Demonstration)
- Secondary Stalls (Demonstration)
- Accelerated Maneuver Stalls (Demonstration)
- Emergency Approach and Landing (Simulated)
- Systems and Equipment Malfunctions
- Emergency Equipment and Survival Gear
- Emergency Descent

### **Postflight Discussion**

### Phase 3 *\*Progress Check\**

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.			
<i>Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"</i>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
Risk management <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
Situational Awareness <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
Task management <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
Controlled flight into terrain awareness (CFIT) <i>Identifies those areas of an instructional flight with elevated CFIT risk</i>			
<b>Pre-takeoff Ground Operations</b>			
Preflight inspection <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
Cockpit management <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
Engine starting <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
Taxiing <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
Airport, runway and taxiway signs, markings, and lighting <i>Understands and complies with airport signs, markings and lighting</i>			
Before takeoff check <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			
<b>Airport operations</b>			
Radio communications and ATC light signals <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
Traffic patterns <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
Normal and crosswind takeoff and climb <i>PTS Standards</i>			
Normal and crosswind approach and landing <i>PTS Standards</i>			
Go-Around/Rejected Landing <i>PTS Standards</i>			
Power-off 180° accuracy approach and landing <i>PTS Standards</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading <math>\pm 5^\circ</math>, altitude <math>\pm 50</math> ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude <math>\pm 50</math> ft, rollout on heading <math>\pm 5^\circ</math></i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, level off <math>\pm 50</math> ft, rollout/maintain heading <math>\pm 5^\circ</math></i>			

### Phase 3 *\*Progress Check\*continued*

<b>Performance maneuvers</b>			
Lazy eights <i>PTS Standards</i>			
<b>Ground reference maneuvers</b>			
Eights on pylons <i>PTS Standards</i>			
<b>Slow flight, stalls and spins</b>			
Maneuvering During Slow Flight <i>PTS Standards</i>			
Power-On Stalls (Proficiency) <i>PTS Standards</i>			
Power-Off Stalls (Proficiency) <i>PTS Standards</i>			
Cross-controlled stalls (demonstration) <i>PTS Standards</i>			
Elevator trim stalls (demonstration) <i>PTS Standards</i>			
Secondary stalls (demonstration) <i>PTS Standards</i>			
Accelerated maneuver stalls (demonstration) <i>PTS Standards</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>PTS Standards</i>			
Emergency descent <i>PTS Standards</i>			
Emergency approach and landing (simulated) <i>PTS Standards</i>			
Emergency equipment and survival gear <i>PTS Standards</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

**STAGE 2 – *Becoming a Flight Instructor* (1P)**

**Stage Objectives:**

- a. Perform all flight tasks exceeding minimum skill standards
- b. Demonstrate instructional knowledge of each task
- c. Simultaneously explain each maneuver while demonstrating it
- d. Demonstrate instructional knowledge of risk management considerations of each task
- e. Identify and manage instructional risks involved with each task
- f. Demonstrate instructional knowledge of common errors of each maneuver
- g. Analyze and correct simulated errors when teaching maneuvers
- h. Incorporate scenarios when teaching maneuvers
- i. Complete all Knowledge Lessons
- j. Complete FIA test

## PHASE 4 – *Demonstrating Instructional Competence* (2S)

### Phase Objectives:

- a. Demonstrate all Maneuvers to standards while simultaneously explaining how to fly them
- b. Introduce maneuvers to simulated pilots in training
- c. Correct pilot-in-training simulated errors
- d. Teach maneuver appropriate risk surveillance and mitigation
- e. Demonstrate active instructional level risk awareness, identification and mitigation

## **Web-based KNOWLEDGE**

### **CROSS-COUNTRY PLANNING**

### **FLIGHT OPERATIONS**

### **ADVANCED GROUND INSTRUCTOR**

#### **4.1 CROSS-COUNTRY PLANNING**

**Objective:** You will reacquaint yourself and sharpen your knowledge of cross-country preflight planning, in-flight calculations, and diversion in preparation for teaching those concepts to new pilots.

##### **4.1.1 Preflight and Inflight Cross-Country Calculations**

Fuel Required and Range  
Wind Triangle, Course and Heading (MM: Keep triangle?)  
Ground Speed and Fuel Consumed  
Distance and Time to Climb  
Magnetic Heading and Ground Speeds  
Determining the Wind  
Distance Traveled and Indicated Airspeed  
Off-Course Correction and Diverting to an Alternate

## **4.2 FLIGHT OPERATIONS**

**Objective:** You will review flight planning products, aircraft and engine systems, cold weather and icing, taxiing with wind, collision avoidance, flight physiological factors, visual glide slopes, and airport marking and lighting.

### **4.2.1 Preflight Planning**

- Flight Plans
- Chart Supplement
- NOTAMs

### **4.2.2 Airplane Systems**

- Fuel Systems
- Engines
- Propellers
- Constant Speed Propellers
- Engine Ignition Systems
- Electrical Systems

### **4.2.3 Engine Operations**

- Mixture
- Overheating
- Detonation and Pre-Ignition

### **4.2.4 Induction Icing and Cold Weather Operations**

- Induction and Impact Icing
- Cold Weather Operations

### **4.2.5 Taxiing in the Wind and Collision Avoidance**

- Taxiing in the Wind
- Avoiding Midairs
- Scanning for Traffic

### **4.2.6 Aeromedical Factors**

- Hypoxia
- Oxygen
- Alcohol, Hyperventilation, and Scuba Diving
- Motion Sickness, Spatial Disorientation and Vision

### **4.2.7 Visual Glide Slopes, Airport Markings and Lighting**

- 2 Bar and 3 Bar VASI
- PAPI
- Airport Markings
- Airport Lighting
- Segmented Circle

### **4.3 ADVANCED GROUND INSTRUCTOR**

**Objective:** You will review the expected knowledge concepts and learn the privileges of an Advanced Ground Instructor.

#### **4.3.1 Advanced Ground Instructor**

- V-Speeds and Terms
- Regulations
- Ground Instructor Privileges



## **Scenario 1 – Elementary Task and Risk Management Review (4-1)**

### **Objective:**

- Display command of all maneuvers surpassing minimum standards
- Display instructional knowledge of risk and risk mitigation factors for each maneuver
- Display instructional knowledge and ability to explain the elements of each task

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Teach risks and mitigation factors when demonstrating each maneuver
- Explain instructional risks and mitigation techniques for each maneuver

### **Preflight Discussion:**

### **Reviewing your Skills**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Normal and Crosswind Takeoff and Climb
- Normal and Crosswind Approach and Landing
- Soft-Field Takeoff and Climb
- Soft-Field Approach and Landing
- Slip to a Landing
- Go-Around/Rejected Landing
- Rectangular Course
- S-Turns across a Road
- Turns Around a Point
- Maneuvering During Slow Flight
- Power-On Stalls (Proficiency)
- Power-Off Stalls (Proficiency)
- Straight-and-Level Flight (IR)
- Constant Airspeed Climbs (IR)
- Constant Airspeed Descents (IR)
- Turns to Headings (IR)
- Recovery from Unusual Flight Attitudes (IR)
- Systems and Equipment Malfunctions

### **Postflight Discussion**

## **Scenario 2 – Advanced Task and Risk Management Review (4-2)**

### **Scenario Objectives:**

- Display command of all maneuvers surpassing minimum standards
- Display instructional knowledge of risk and risk mitigation factors for each maneuver
- Display instructional knowledge and ability to explain the elements of each task

### **Purpose/pressures (real or simulated):**

- Obtaining Flight Instructor Certificate
- Aviation Employment

### **Where to go:**

- Training area

### **How to get there:**

- Pilotage, DR, Electronic Navigation

### **Planned deviations:**

- None

### **Planned malfunctions:**

- As specified by tasks

### **Risks (real or simulated):**

- Teach risks and mitigation factors when demonstrating each maneuver
- Explain instructional risks and mitigation techniques for each maneuver

## **Preflight Discussion**

### **Reviewing your Skills:**

- Pre-takeoff/After Landing Ground Operations (*Scenario 1-2 \**)
- Airport Operations (*Scenario 1-2 ^*)
- Fundamentals of Flight (*Scenario 1-2 #*)
- Short-Field Takeoff and Maximum Performance Climb
- Short-Field Approach and Landing
- Power-Off 180° Accuracy Approach and Landing
- Steep Turns
- Steep Spirals
- Chandelles
- Lazy Eights
- Eights on Pylons
- Cross-controlled Stalls (Demonstration)
- Elevator Trim Stalls (Demonstration)
- Secondary Stalls (Demonstration)
- Spin Awareness
- Accelerated Maneuver Stalls (Demonstration)
- Emergency Approach and Landing (Simulated)
- Systems and Equipment Malfunctions (Including Landing Gear Extension Failure)
- Emergency Equipment and Survival Gear
- Emergency Descent

## **Postflight Discussion**

## Phase 4 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is “Explain”</i>	Instruction Given	Describe	Explain
Cross-country planning			
Cross-country in-flight calculations			
Diversion to alternate			
Airplane systems			
Engine operation			
Cold weather operations			
Aeromedical factors			
Visual glideslopes			
Airport signs, markings, and lighting			
Practical test prep			

## Phase 4 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.  <i>Desired outcome for all tasks by the end of the phase is “Perform” or “Manage/Decide”</i>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
Risk management <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
Situational Awareness <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
Task management <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
Controlled flight into terrain awareness (CFIT) <i>Identifies those areas of an instructional flight with elevated CFIT risk</i>			
<b>Pre-takeoff Ground Operations</b>			
Preflight inspection <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
Cockpit management <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
Engine starting <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
Taxiing <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
Airport, runway and taxiway signs, markings, and lighting <i>Understands and complies with airport signs, markings and lighting</i>			
Before takeoff check <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			
<b>Airport operations</b>			
Radio communications and ATC light signals <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
Traffic patterns <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			

## Phase 4 Proficiency Checklist *continued*

<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
Normal and crosswind takeoff and climb <i>PTS Standards</i>			
Short-field takeoff and maximum performance climb <i>PTS Standards</i>			
Soft-field takeoff and climb <i>PTS Standards</i>			
Normal and crosswind approach and landing <i>PTS Standards</i>			
Short-field approach and landing <i>PTS Standards</i>			
Soft-field approach and landing <i>PTS Standards</i>			
Slip to a landing <i>PTS Standards</i>			
Go-Around/Rejected Landing <i>PTS Standards</i>			
Power-off 180° accuracy approach and landing <i>PTS Standards</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading ±5°, altitude ±50 ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude ±50 ft, rollout on heading ±5°</i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, level off ±50 ft, rollout/maintain heading ±5°</i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, level off ±50 ft, rollout/maintain heading ±5°</i>			
<b>Performance maneuvers</b>			
Steep Turns <i>PTS Standards</i>			
Steep Spirals <i>PTS Standards</i>			
Chandelles <i>PTS Standards</i>			
Lazy eights <i>PTS Standards</i>			
<b>Ground reference maneuvers</b>			
Turns around a point <i>PTS Standards</i>			
S-turns across a road <i>PTS Standards</i>			
Rectangular course <i>PTS Standards</i>			
Eights on pylons <i>PTS Standards</i>			
<b>Slow flight, stalls and spins</b>			
Maneuvering During Slow Flight <i>PTS Standards</i>			
Power-On Stalls (Proficiency) <i>PTS Standards</i>			
Power-Off Stalls (Proficiency) <i>PTS Standards</i>			

**Phase 4 Proficiency Checklist *continued***

Cross-controlled stalls (demonstration) <i>PTS Standards</i>			
Elevator trim stalls (demonstration) <i>PTS Standards</i>			
Secondary stalls (demonstration) <i>PTS Standards</i>			
Spin Awareness <i>PTS Standards</i>			
Accelerated maneuver stalls (demonstration) <i>PTS Standards</i>			
<b>Basic instrument maneuvers</b>			
Straight-and-level flight (IR) <i>PTS Standards</i>			
Constant airspeed climbs (IR) <i>PTS Standards</i>			
Constant airspeed descents (IR) <i>PTS Standards</i>			
Turns to headings (IR) <i>PTS Standards</i>			
Recovery from unusual flight attitudes (IR) <i>PTS Standards</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>PTS Standards</i>			
Emergency descent <i>PTS Standards</i>			
Emergency approach and landing (simulated) <i>PTS Standards</i>			
Emergency equipment and survival gear <i>PTS Standards</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

**Phase 4 completion standards:**

You have completed Phase 4 when you

- Review your home study results with your instructor
- Demonstrate all maneuvers to standards while simultaneously explaining how to fly them
- Introduce maneuvers to simulated pilots in training
- Correct pilot-in-training errors
- Demonstrate ability to teach appropriate risk surveillance and mitigation
- Demonstrate active instructional level risk awareness, identification, and mitigation
- Achieve a grade of “Perform” or “Manage/Decide” on all Phase Proficiency Checklist tasks
- Complete the Phase 4 Progress Check

**INSTRUCTOR NOTES:**

### **Scenario 3 – Final Phase/Stage Check (4-3)**

#### **Objective:**

Check instructor selects at least the minimum tasks required for an actual practical test  
Check instructor conducts scenario as a mock instructor practical test  
Instructor applicant breaks down each maneuver and explains its basic elements while demonstrating the maneuver

#### **Purpose/pressures (real or simulated):**

Obtaining Flight Instructor Certificate  
Aviation Employment

#### **Where to go:**

Training area

#### **How to get there:**

Pilotage, DR, Electronic Navigation

#### **Planned deviations:**

None

#### **Planned malfunctions:**

As specified by tasks

#### **Risks (real or simulated):**

Instructor applicant identifies risk areas involved with each maneuver assigned  
Instructor applicant teaches risks and mitigation techniques involved with each maneuver/task  
Instructor applicant maintains active risk surveillance throughout the flight

### **Preflight Discussion**

#### **Checking your Skills:**

Preflight Inspection  
Cockpit Management  
Engine Starting  
Taxiing  
Before Takeoff Check  
Radio Communications and ATC Light Signals  
Traffic Patterns  
Airport, Runway and Taxiway Signs, Markings, and Lighting  
Normal and Crosswind Takeoff and Climb  
Normal and Crosswind Approach and Landing  
Short-Field Takeoff and Maximum Performance Climb  
Short-Field Approach and Landing  
Soft-Field Takeoff and Climb  
Soft-Field Approach and Landing  
Slip to a Landing  
Go-Around/Rejected Landing  
Power-Off 180° Accuracy Approach and Landing  
Straight-and-Level Flight  
Level Turns  
Straight Climbs and Climbing Turns  
Straight Descents and Descending Turns  
Steep Turns  
Steep Spirals  
Chandelles  
Lazy Eights  
Rectangular Course  
S-Turns across a Road  
Turns Around a Point  
Eights on Pylons  
Maneuvering During Slow Flight  
Power-On Stalls (Proficiency)  
Power-Off Stalls (Proficiency)

Cross-controlled Stalls (Demonstration)  
Elevator Trim Stalls (Demonstration)  
Secondary Stalls (Demonstration)  
Spin Awareness  
Accelerated Maneuver Stalls (Demonstration)  
Straight-and-Level Flight (IR)  
Constant Airspeed Climbs (IR)  
Constant Airspeed Descents (IR)  
Turns to Headings (IR)  
Recovery from Unusual Flight Attitudes (IR)  
Emergency Approach and Landing (Simulated)  
Systems and Equipment Malfunctions  
Emergency Equipment and Survival Gear  
Emergency Descent  
Postflight Procedures

**Postflight Discussion**

## Phase 4 *\*Progress Check\**

<p>*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.</p> <p><i>Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"</i></p>	Practice	Perform	Manage / Decide
<b>Single-pilot resource management</b>			
<b>Risk management</b> <i>Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks</i>			
<b>Situational Awareness</b> <i>Identifies potential SA risks; understands and uses cockpit tools available to enhance SA</i>			
<b>Task management</b> <i>Prioritizes and selects most appropriate tasks for phase of flight</i>			
<b>Controlled flight into terrain awareness (CFIT)</b> <i>Identifies those areas of an instructional flight with elevated CFIT risk</i>			
<b>Pre-takeoff Ground Operations</b>			
<b>Preflight inspection</b> <i>Performs preflight inspection using the checklist to confirm that all steps have been completed</i>			
<b>Cockpit management</b> <i>Briefs cockpit safety equipment and establishes and maintains an efficient and organized cockpit</i>			
<b>Engine starting</b> <i>Notes airplane position, uses checklist and safety procedures considers other persons/property</i>			
<b>Taxiing</b> <i>Runway incursion procedures record taxi instructions, airport diagram, full attention to taxiing</i>			
<b>Airport, runway and taxiway signs, markings, and lighting</b> <i>Understands and complies with airport signs, markings and lighting</i>			
<b>Before takeoff check</b> <i>Uses checklist for preflight, starting, run-up and all phases of flight</i>			
<b>Airport operations</b>			
<b>Radio communications and ATC light signals</b> <i>Uses correct procedures and terminology and correctly interprets simulated light signals</i>			
<b>Traffic patterns</b> <i>Appropriate entry/exit procedures, pattern flown, altitudes, configuration and airspeeds</i>			
<b>In-flight operations</b>			
<b>Takeoffs, landings and go-arounds</b>			
<b>Normal and crosswind takeoff and climb</b> <i>PTS Standards</i>			
<b>Short-field takeoff and maximum performance climb</b> <i>PTS Standards</i>			
<b>Soft-field takeoff and climb</b> <i>PTS Standards</i>			
<b>Normal and crosswind approach and landing</b> <i>PTS Standards</i>			
<b>Short-field approach and landing</b> <i>PTS Standards</i>			
<b>Soft-field approach and landing</b> <i>PTS Standards</i>			
<b>Slip to a landing</b> <i>PTS Standards</i>			
<b>Go-Around/Rejected Landing</b> <i>PTS Standards</i>			



#### Phase 4 *\*Progress Check\* continued*

Power-off 180° accuracy approach and landing <i>PTS Standards</i>			
<b>Fundamentals of flight</b>			
Straight-and-Level Flight <i>Smooth, coordinated, effective use of flight controls, heading ±5°, altitude ±50 ft</i>			
Level Turns <i>Smooth, coordinated, effective use of flight controls, altitude ±50 ft, rollout on heading ±5°</i>			
Straight Climbs and Climbing Turns <i>Smooth, coordinated, effective use of flight controls, level off ±50 ft, rollout/maintain heading ±5°</i>			
Straight Descents and Descending Turns <i>Smooth, coordinated, effective use of flight controls, level off ±50 ft, rollout/maintain heading ±5°</i>			
<b>Performance maneuvers</b>			
Steep Turns <i>PTS Standards</i>			
Steep Spirals <i>PTS Standards</i>			
Chandelles <i>PTS Standards</i>			
Lazy eights <i>PTS Standards</i>			
<b>Ground reference maneuvers</b>			
Turns around a point <i>PTS Standards</i>			
S-turns across a road <i>PTS Standards</i>			
Rectangular course <i>PTS Standards</i>			
Eights on pylons <i>PTS Standards</i>			
<b>Slow flight, stalls and spins</b>			
Maneuvering During Slow Flight <i>PTS Standards</i>			
Power-On Stalls (Proficiency) <i>PTS Standards</i>			
Power-Off Stalls (Proficiency) <i>PTS Standards</i>			
Cross-controlled stalls (demonstration) <i>PTS Standards</i>			
Elevator trim stalls (demonstration) <i>PTS Standards</i>			
Secondary stalls (demonstration) <i>PTS Standards</i>			
Spin Awareness <i>PTS Standards</i>			
Accelerated maneuver stalls (demonstration) <i>PTS Standards</i>			
<b>Basic instrument maneuvers</b>			
Straight-and-level flight (IR) <i>PTS Standards</i>			
Constant airspeed climbs (IR) <i>PTS Standards</i>			
Constant airspeed descents (IR) <i>PTS Standards</i>			

**Phase 4 \*Progress Check\*continued**

Turns to headings (IR) <i>PTS Standards</i>			
Recovery from unusual flight attitudes (IR) <i>PTS Standards</i>			
<b>Emergency operations</b>			
Systems and equipment malfunctions <i>PTS Standards</i>			
Emergency descent <i>PTS Standards</i>			
Emergency approach and landing (simulated) <i>PTS Standards</i>			
Emergency equipment and survival gear <i>PTS Standards</i>			
<b>After landing ground operations</b>			
Post-landing taxi and parking <i>Safely exits runway, uses runway incursion avoidance procedures, safe movement in parking area</i>			
Postflight procedures <i>Secures aircraft and completes appropriate checklists and postflight inspection</i>			

# **Cessna Flight Instructor Course Training Requirements**

## **Requirements for enrollment**

Prior to enrolling in the flight portion of the Cessna Flight Instructor course, the customer must

- Be at least 18 years old prior to course graduation
- Hold at least a commercial pilot certificate
  - An airplane category, single engine land class rating
- For a Part 141 course, hold an instrument rating
  - An airplane category, single engine class rating

## **Ground training requirements**

The customer must successfully complete

- All web-based knowledge instruction
- All Ground Training Checklists
- All Progress Checks
- Practice Knowledge Test (if required by Cessna Pilot Center)

## **Flight training requirements**

Prior to completing the Cessna Flight Instructor course

- The applicable minimum hourly requirements must be met
- As well as successful completion of all Phase Proficiency Checklists and Progress Checks

## **Requirements for graduation**

To obtain a graduation certificate for the Cessna Flight Instructor course, the applicant must:

- Be able to read, speak, write and understand English
- Complete all ground training requirements
- Complete all flight training requirements
- Achieve a satisfactory grade on the FAA Fundamentals of Instructing Knowledge Test
- Achieve a satisfactory grade on the FAA Flight Instructor-Airplane Knowledge Test

## **Minimum flight time requirements**

The course is designed to meet the minimum hour requirements of

- 14 CFR Part 141, Appendix F Flight Instructor Certification Course
- 14 CFR Part 61 Subpart H Flight Instructors Other Than Flight Instructors with a Sport Pilot Rating

The minimum FAA hour requirements

- Vary depending upon your course of enrollment
- Are to be thought of as minimums only
  - The goal is to prepare you to be a competent, proficient flight instructor

## **What you get at an FAA certificated flight school (under 14 CFR Part 141)**

If you take a course with this syllabus under Part 141 of the Federal Aviation Regulations, you are assured that flight school has been approved by the FAA and is required to demonstrate and maintain

- Standardized flight operations, including *Safety Procedures and Practices*
- A structured training environment
- Detailed training records available for regular and unannounced FAA checks and inspection
- At least an 80% first attempt pass rate for certificate or rating applicants training under Part 141

# FLIGHT INSTRUCTOR COURSE

## MINIMUM COURSE HOURS AND CHRONOLOGICAL LOG

For Part 141, Appendix F Compliance

These times are for customer/instructor guidance only. They are a suggested time schedule which will ensure compliance with the minimum flight and ground training required under FAR Part 141. Preflight and postflight briefings are required under FAR Part 141 for each flight training flight. It is suggested that you allow a minimum of .5 hour per flight for these briefings. The written exams may be credited toward the 40 hours of required ground training, and the check flights may be credited toward the 25 hours of flight training.

Date	Lesson	Minimum Total Flight Training	Instrument Flight Training	Complex Aircraft Flight Training	Total Flight Time	Ground Training
<b>STAGE 1</b>						
<b>PHASE 1: DEMONSTRATING MANEUVERS FROM THE RIGHT SEAT</b>						
	<b>AERODYNAMICS</b>					3.3
	<b>SECTIONAL CHARTS</b>					.3
	<b>AIRSPACE AND WEATHER MINIMUMS</b>					2.0
	<b>FEDERAL AVIATION REGULATIONS</b>					3.9
	<b>PHASE 1 GROUND TRAINING Checklist</b>					1.8
	FLIGHT SCENARIO 1	1.4			1.4	.7
	FLIGHT SCENARIO 2	1.4			1.4	.5
	FLIGHT SCENARIO 3	1.4			1.4	.5
	FLIGHT SCENARIO 4	1.5	.3		1.5	.5
	FLIGHT SCENARIO 5	1.5	.3		1.5	.5
	FLIGHT SCENARIO 6 AND PROGRESS CHECK	1.5			1.5	.7
<b>PHASE 2: GAINING PROFICIENCY DEMONSTRATING AND EXPLAINING MANEUVERS</b>						
	<b>FLIGHT INSTRUMENTS</b>					.9
	<b>AIRCRAFT PERFORMANCE</b>					1.2
	<b>WEATHER</b>					3.6
	<b>WEIGHT AND BALANCE</b>					.8
	<b>COMMERCIAL MANEUVERS</b>					2.0
	<b>TEACHING MANEUVERS</b>					2.0
	<b>PHASE 2 GROUND TRAINING Checklist</b>					1.6
	FLIGHT SCENARIO 1	1.5			1.5	.5
	FLIGHT SCENARIO 2	1.5			1.5	.5
	FLIGHT SCENARIO 3	1.5			1.5	.5
	FLIGHT SCENARIO 4 AND PROGRESS CHECK	1.5			1.5	.7

Date	Lesson	Minimum Total Flight Training	Instrument Flight Training	Complex Aircraft Flight Training	Total Flight Time	Ground Training
<b>PHASE 3: REFINING INSTRUCTIONAL SKILLS</b>						
	COMMUNICATIONS AND RADAR SERVICES					.3
	RADIO NAVIGATION					.7
	FUNDAMENTALS OF INSTRUCTING					4.5
	PHASE 3 GROUND TRAINING Checklist					1.5
	FLIGHT SCENARIO 1	1.6	.3		1.6	.5
	FLIGHT SCENARIO 2	1.6			1.6	.5
	FLIGHT SCENARIO 3 AND PROGRESS CHECK	1.7			1.7	.7
	TOTAL RECEIVED STAGE 1					
	<b>TOTAL REQUIRED STAGE 1</b>	<b>19.6</b>	<b>0.9</b>		<b>19.6</b>	<b>37.7</b>

Date	Lesson	Minimum Total Flight Training	Instrument Flight Training	Complex Aircraft Flight Training	Total Flight Time	Ground Training
<b>STAGE 2</b>						
<b>PHASE 4: DEMONSTRATING INSTRUCTIONAL COMPETENCE</b>						
	CROSS-COUNTRY PLANNING					1.2
	FLIGHT OPERATIONS					3.4
	ADVANCED GROUND INSTRUCTOR					.3
	PHASE 4 GROUND TRAINING Checklist					1.2
	FLIGHT SCENARIO 1	1.7	.3	1.7	1.7	.7
	FLIGHT SCENARIO 2	1.7		1.7	1.7	.7
	FLIGHT SCENARIO 3 AND PROGRESS CHECK	2.0	.3	2.0	2.0	1.5
	TOTAL RECEIVED STAGE 2					
	<b>TOTAL REQUIRED STAGE 2</b>	<b>5.4</b>	<b>0.6</b>	<b>5.4</b>	<b>5.4</b>	<b>9.0</b>

	TOTAL RECEIVED IN COURSE					
	<b>MINIMUM REQUIRED FOR THIS PART 141 COURSE</b>	<b>25.0</b>	<b>1.5</b>	<b>5.4</b>	<b>25.0</b>	<b>46.7</b>

	<b>MINIMUM REQUIRED FOR PART 61</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>
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(a) \* No minimum flight or ground training specified for part 61 other than that necessary to achieve the flight proficiency requirements of 61.187 and aeronautical knowledge of 61.185.

## GROUND TRAINING SUMMARY

Phase	Online Knowledge Lessons*	Pre-flight & Post-flight Briefings**	Ground Training Checklist	Total
1	9.5	3.4	1.8	14.7
2	10.5	2.2	1.6	14.3
3	5.5	1.7	1.5	8.7
<b>Stage 1 Totals</b>	25.5	7.3	4.9	37.7

4	4.9	2.9	1.2	9.0
<b>Stage 2 Totals</b>	4.9	2.9	1.2	9.0

<b>Totals</b>	<b>30.4</b>	<b>10.2</b>	<b>6.1</b>	<b>46.7</b>
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\* Based on a 45 second average per each lesson question.

\*\* Based on detailed times for pre-flight and post-briefing per flight.

This syllabus accommodates the required 40-hour minimum aeronautical knowledge training when used as a Part 141, Appendix F curriculum as shown in the table above.

The aeronautical knowledge training occurs through multiple paths including the online tested self study video segments, instructor/customer interaction in the pre- and post-flight briefings, and during the instructor/customer Ground Training Checklist reviews.

A customer receives credit for the online course study when they complete every lesson within the course. To complete a lesson, the customer must satisfactorily complete every question within that lesson.

Customer aeronautical knowledge competence is assured through instructor/customer Ground Training Checklist reviews that must be demonstrated to the Explain level and the Cessna Pilot Center (CPC) knowledge test.