CESSNA FLIGHT TRAINING

INSTRUCTOR'S GUIDE

SPORT / PRIVATE PILOT

Cessna

TEXTRON AVIATION

Cessna Flight Training System

Cessna Sport / Private Pilot Training Course

INSTRUCTOR'S GUIDE

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Cessna Sport / Private Pilot Instructor's Guide

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INSTRUCTOR'S GUIDE
REVISION RECORD

Revision Number	*Revision Date*	*Online Date*	*Change Description*
Ver. 1.00	08-06-09	ORIGINAL	ORIGINAL
Ver. 1.01	06-02-10	06-08-10	Added page version numbers; Added Table of Contents
Ver. 1.01	06-02-10	06-08-10	Pg A28 added Part 141 certificate requirement to enroll in solo phase.
Ver. 1.01	06-02-10	06-08-10	Pg A42 revised Where to go: "more than 50 nm for private"
Ver. 1.01	06-02-10	06-08-10	Pg A46 revised Where to go: "more than 50 nm"
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Ver. 1.03	06-15-16	07-01-16	Pg A1, A49 & A51 replaced Practical Test Standards with Airmen Certification Standards and PTS with ACS
Ver. 1.03	06-15-16	07-01-16	Pg A4, A7, A9, A16, A20, A22, A23, A33, A36, A38, A46 & A47 replaced A/FD with Chart Supplement
Ver. 1.10	02-07-20	03-23-20	Removed pages duplicated in the Sport/Private Pilot Syllabus. Pages i through xiii
Ver. 1.10	02-07-20	03-23-20	Added Sport/Private Syllabus Quick Guide Pages 1 – 22
Ver. 1.11	03-27-20	03-27-20	Pg 1 editorial updates; Added back cover Pg B2
Ver. 1.12	08-04-20	08-04-20	Pg B1 revised FAA letter addressing the changes to Syllabus revision v1.07

INSTRUCTOR'S GUIDE
REVISION RECORD

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Overview

The **Cessna Flight Training System** is an integrated online ground and scenario-based flight training course, developed exclusively for Textron Aviation by the experts at King Schools. It has been designed to provide pilots-in-training with the knowledge, skills and confidence to embrace their future in aviation.

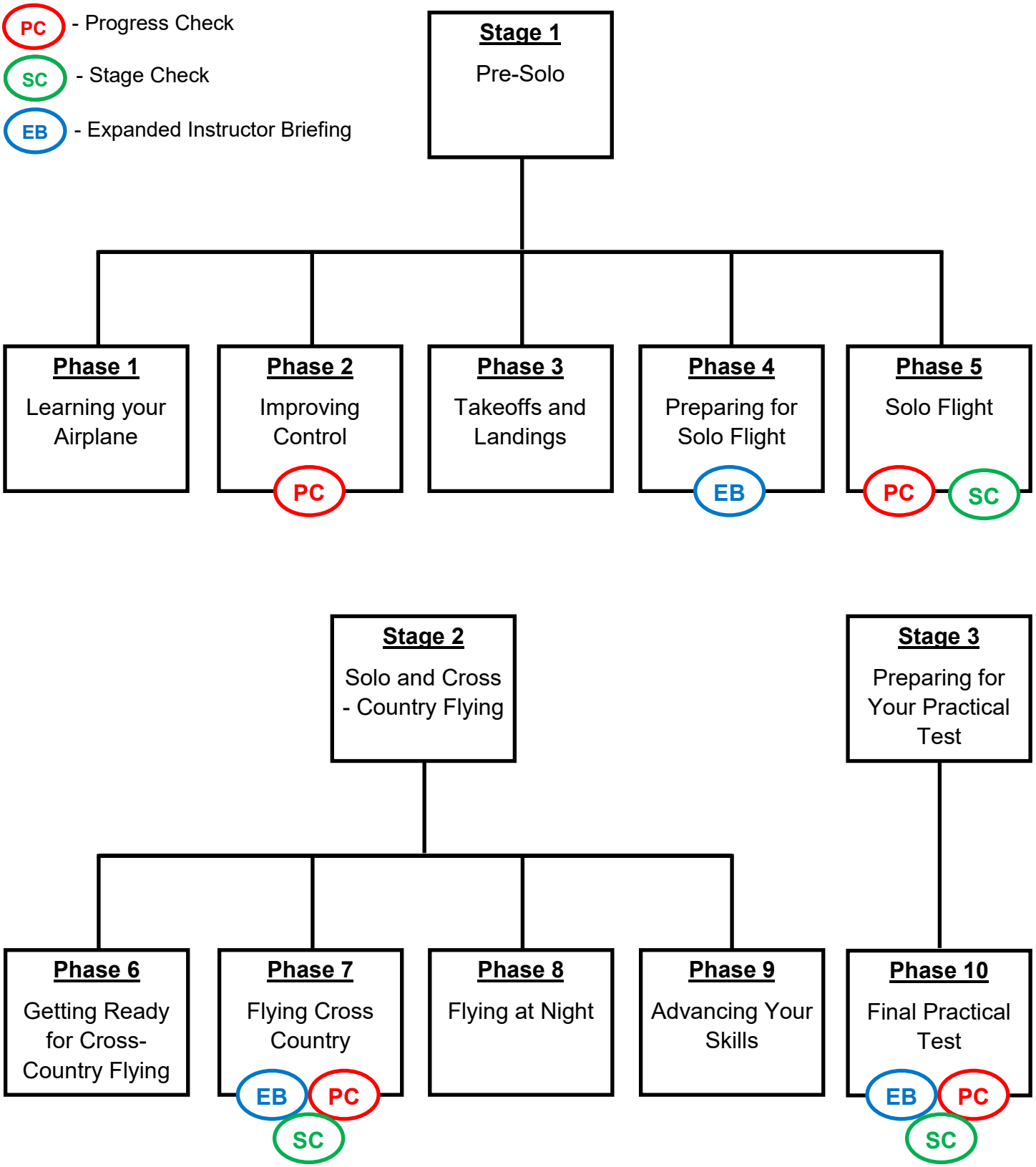
Online knowledge study and flight training are recorded in the Course Tracking Application (CTA). All pilot-in-training customers should be registered in the Course Tracking Application (CTA).

This quick reference guide is intended to provide flight instructors with a brief overview of the Cessna Flight Training Syllabus. The intended use of this guide is to familiarize the CFI with the overall course structure and training objectives. This guide does not replace the official course syllabus. The full course syllabus can be found in the Course Tracking Application (CTA) under the Documentation menu>Certification/Rating folder.

Course Structure

- **Stages** - The course is divided into three stages. Each stage has knowledge review sessions (suggested), expanded instructor briefings (required) and progress checks (required).
    - ⇒ **Knowledge Review Sessions** - Suggested one-on-one sessions designed to supplement the web-based knowledge and identify the customer's weak areas. Instructors are expected to be familiar with the online curriculum and will be given a course key by their Chief Flight Instructor or Flight School Manager.
    - ⇒ **Expanded Instructor Briefing (EB)** - Before each knowledge test, there is a required expanded instructor briefing as a final preparation for the test (can be found in Appendix A of the full syllabus). *Please see full syllabus for expanded instructor briefing details.*
    - ⇒ **Progress / Stage Checks (PC) (SC)** - Within each Stage, there is at least one Progress Check serving as a Stage Check that consists of oral quizzing and a flight given by the Chief CFI, Assistant Chief CFI, or a designated CFI. *Please see full syllabus for progress check details.*
- **Phases** - Each stage is divided into phases, there are ten phases. Each phase has required web-based knowledge instruction (required), flight scenarios (highly recommended), phase ground training checklists (required), and phase proficiency checklists (required).
    - ⇒ **Web-based Knowledge Instruction** - Builds the customer's knowledge foundation for flight scenarios, completed before the corresponding phase can be considered complete. Customers will complete this on the Cessna Companion App or Cessnaflighttraining.KingSchools.com
    - ⇒ **Flight Scenarios** - May be customized by the flight school for its operating environment and adapted as necessary by the instructor. Flight scenarios may be repeated as necessary for the pilot-in-training to achieve the required grade level for each specified tasks.
    - ⇒ **Phase Ground Training Checklist** - The pilot-in-training must be able to explain the concept to show their understanding of underlying concepts, principles and procedures. The ground training checklist for each phase can be found in the full course syllabus in the Course Tracking Application (CTA) under the Documentation menu>Certification/Rating

Syllabus Structure



Grading

Pilots-in-training must complete each task to the highest level of proficiency in order to graduate. Once a task has been marked to the highest standard, it is considered complete for the Phase regardless of future grading. It is the instructor's discretion whether they want the customer to repeat performing the task.

- **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.)

  *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.

  *Example: A pilot-in-training 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.*

Stage 1, Phase 1: Learning Your Airplane

Objective: The pilot-in-training will learn what makes the airplane fly, how to control the airplane in flight, and how to know if the airplane is airworthy.

Web-based Knowledge Objectives

Getting to Know Your Airplane

- ☐ Main parts of the airplane
- ☐ Airplane flight controls
- ☐ Safe habits around airplanes
- ☐ Preflight inspection
- ☐ Engine start
- ☐ Controlling the airplane on the ground
- ☐ Intro to takeoffs
- ☐ Straight-and-level flight
- ☐ Turns, climbs, and descents
- ☐ Engine shutdown and securing the airplane

How an Airplane Flies

- ☐ Forces of flight
- ☐ When airflow is disrupted
- ☐ 3 axes of rotation
- ☐ Using the rudder
- ☐ Load factor
- ☐ Maneuvering speed
- ☐ Climbs and descents
- ☐ Power-off descents
- ☐ Left turning tendencies
- ☐ Ground effect
- ☐ Using trim and flaps

More About Your Airplane

- ☐ Instruments vs. outside
- ☐ Heading
- ☐ Airspeed and altitude
- ☐ Slow flight
- ☐ Airworthiness documents
- ☐ Required equipment
- ☐ Required inspections
- ☐ Special flight permits
- ☐ Basic airplane maintenance

Airplane Engine and Systems

- ☐ How the engine works
- ☐ How the magnetos work
- ☐ Detonation and preignition
- ☐ How the propeller works
- ☐ Fuel, oil, and hydraulic systems
- ☐ Electrical system
- ☐ Environmental system

Flight Scenarios

- ☐ First flight - Introduction to new terms, preflight procedures, ground operations, basic aircraft control and postflight procedures.
- ☐ Controlling the airplane - Learn proper rudder usage, get comfortable with airplane controls and learn how to set the airplane pitch/power combination for your desired phase of flight.
- ☐ Increasing awareness - Perform preflight procedures, ground operations, basic aircraft control and postflight procedures with minimal instructor assistance. Practice flying slowly near stall speed.

Stage 1, Phase 1 Continued On Next Page

Ground Training Tasks

- ☐ Safety practices and procedures
- ☐ Study material and habits
- ☐ Preflight inspection
- ☐ Checklist usage
- ☐ Operation of systems
- ☐ Single-pilot resource management
- ☐ Risk management
- ☐ Task management
- ☐ Runway incursion avoidance
- ☐ Normal takeoff and climb
- ☐ Maneuvering during slow flight
- ☐ Power-off stalls
- ☐ Normal approach and landing

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Task management
- ☐ Risk management
- ☐ Preflight inspection
- ☐ Cockpit management
- ☐ Checklist usage
- ☐ Location of fire extinguisher
- ☐ Doors and safety belts
- ☐ Engine starting and warm-up
- ☐ Positive exchange of flight controls
- ☐ Runway incursion avoidance
- ☐ Taxiing
- ☐ Engine run-up
- ☐ Before takeoff check
- ☐ Left turning tendencies
- ☐ Climbs and descents
- ☐ Constant airspeed climbs and descents
- ☐ Level off
- ☐ Use of trim
- ☐ Straight-and-level flight
- ☐ Area familiarization
- ☐ Collision avoidance
- ☐ Stability demo (yaw-pitch-roll)
- ☐ Aileron/rudder coordination exercise
- ☐ Medium banked turns
- ☐ Turn coordination
- ☐ Back pressure in a turn
- ☐ Turn entry and roll out
- ☐ Maneuvering during slow flight
- ☐ Power-off stalls
- ☐ Descents with/without flaps
- ☐ Power-off descent at best glide airspeed
- ☐ Descent at approach airspeed in landing configuration
- ☐ After landing, parking and securing

Phase 1 Completion Standards

- ☐ Use checklists to preflight, start the airplane, and taxi it from the parking area to the runway
- ☐ Make coordinated turns, climbs and descents
- ☐ Maintain straight-and-level flight within 250 feet while in the practice area
- ☐ Taxi the airplane from the runway back to the parking area, shut it down and secure it
- ☐ Have reviewed the Phase Progress Report with your instructor

Stage 1, Phase 2: Improving Control

Objective: The pilot-in-training will add to their skill set the maneuvers that allow them to fly more precisely. They will hone the basic skills they have learned and develop safety habits. The pilot-in-training will also fly with another instructor to check their progress.

Web-based Knowledge Objectives

Single-Pilot Resource Management (SRM)

- ☐ Task management (TM)
- ☐ Automation management (AM)
- ☐ Risk management (RM)
- ☐ Aeronautical decision making (ADM)
- ☐ Situational Awareness (SA)
- ☐ Controlled flight into terrain awareness (CFIT)
- ☐ 5 P's
- ☐ PAVE and CARE checklists
- ☐ Personal minimums
- ☐ Cockpit management
- ☐ Hypoxia, dehydration, and other physical factors
- ☐ Alcohol and drugs

Using Your Airport and Radio Communications

- ☐ Coordinated universal time
- ☐ Runway and taxiway markings
- ☐ Progressive taxi instructions
- ☐ Ramp hand signals
- ☐ Radios
- ☐ Safety equipment
- ☐ Radio communication
- ☐ Lost communications
- ☐ Landing with radio failure

The Airport Environment and Correcting For Wind

- ☐ Wind direction and runway use
- ☐ Flight controls while taxiing
- ☐ Traffic patterns
- ☐ Entering and departing the traffic pattern
- ☐ Communicating intentions and requests
- ☐ Flying the desired path
- ☐ Ground reference maneuvers

Stalls, Takeoffs and Landings Explained

- ☐ Takeoffs
- ☐ Landings
- ☐ Visual glide path indicators
- ☐ Going around
- ☐ Stalls
- ☐ Spin awareness

Flight Scenarios

- ☐ Recognizing and recovering from stalls - Learn how to correct for the wind while taxiing, perform effective radio communications, improve overall aircraft control and learn the skills to recognize, avoid and recover from a stall as well as local traffic pattern operations.
- ☐ Correcting for wind in flight - Learn how to properly correct for wind drift in flight and near the ground, use previously learned rudder coordination skills to perform a coordinated, full power-on stall.
- ☐ Making steep turns - Develop planning, timing and coordination skills while practicing how to properly roll in and out of a steep turn; manipulating the proper controls to maintain a constant airspeed and altitude throughout the steep turn. Learn how to control the airplane by reference to instruments only.
- ☐ Progress check - See next page.

Stage 1, Phase 2 Continued On Next Page

Ground Training Tasks

- ☐ Stall/spin awareness
- ☐ Power-off stalls
- ☐ Power-on stalls
- ☐ Roll control at high angles of attack
- ☐ Use of rudder in stall recovery
- ☐ Use of power in stall recovery
- ☐ Crabbing
- ☐ Ground reference maneuver
- ☐ Sideslip
- ☐ Forward slip
- ☐ Aeronautical decision making
- ☐ Steep turns
- ☐ Basic instrument maneuvers
- ☐ Normal approach and landing

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Aeronautical decision making
- ☐ Preflight inspection
- ☐ Checklist usage
- ☐ Operation of systems
- ☐ Radio communications
- ☐ Positive exchange of flight controls
- ☐ Runway incursion avoidance
- ☐ Crosswind taxi
- ☐ Normal/crosswind takeoff & climb
- ☐ Use of trim
- ☐ Collision avoidance
- ☐ Aileron/rudder coordination
- ☐ Turn coordination
- ☐ Basic instrument maneuvers
- ☐ Maneuvering during slow flight
- ☐ Power-off stall
- ☐ Power-on stall
- ☐ Steep turns
- ☐ Forward slip
- ☐ Ground reference maneuver
- ☐ Descent at approach airspeed in landing configuration
- ☐ Crabbing
- ☐ Sideslip
- ☐ Traffic pattern entry and departure procedures
- ☐ Normal/crosswind approach and landing
- ☐ After landing, parking and securing
- ☐ Progress check

Progress Check

- ☐ Single-pilot resource management
- ☐ Preflight inspection
- ☐ Stall/spin awareness
- ☐ Checklist usage
- ☐ Operation of systems
- ☐ Radio communications
- ☐ Positive exchange of flight controls
- ☐ Runway incursion avoidance
- ☐ Crosswind tax
- ☐ Normal/crosswind takeoff and climb
- ☐ Use of trim
- ☐ Collision avoidance
- ☐ Turn coordination
- ☐ Maneuvering during slow flight
- ☐ Stall
- ☐ Crabbing
- ☐ Sideslip
- ☐ Normal/crosswind approach and landing
- ☐ After landing, parking and securing

Progress Check - Completion Standards

- ☐ Safely and accurately preflight the airplane using checklists
- ☐ Perform unassisted takeoffs
- ☐ Maintain a specific ground track correcting for wind drift

Phase 2 Completion Standards

- ☐ Accurately preflight the airplane correctly using checklists
- ☐ Perform unassisted takeoffs
- ☐ Maintain a specific ground track correcting for wind drift
- ☐ Recognize the approach of a stall and recover in 400 feet or less
- ☐ Have reviewed the Phase Progress Report with your instructor
- ☐ Pass the Progress Check

Stage 1, Phase 3: Takeoffs and Landings

Objective: The pilot-in-training will put into practice all of their skills, to be able to takeoff and land on their own.

Web-based Knowledge Objectives

Weather and Weather Briefings

- ☐ What makes weather
- ☐ The atmosphere
- ☐ Wind
- ☐ Moisture
- ☐ Stable and unstable air
- ☐ Air masses and fronts
- ☐ Fog
- ☐ Thunderstorms
- ☐ Wind shear and microbursts
- ☐ Turbulence
- ☐ Frost and ice
- ☐ Telephone weather briefings
- ☐ Online weather resources

Airplane Performance and Limitations

- ☐ Factors affecting performance
- ☐ Performance speeds
- ☐ Runway conditions
- ☐ POH
- ☐ Performance charts
- ☐ Weight and balance

Learning to Land

- ☐ Final approach
- ☐ Roundout
- ☐ Touchdown
- ☐ Crosswind correction

Charts, Publications, Hazards, and Emergencies

- ☐ Latitude and longitude
- ☐ Airport symbols
- ☐ Obstructions and visual checkpoints
- ☐ VFR chart types
- ☐ Chart supplement
- ☐ NOTAMS
- ☐ FAA reference materials
- ☐ Wake turbulence avoidance
- ☐ Wind shear
- ☐ Emergencies in flight
- ☐ Basic engine failure procedure
- ☐ Emergency approach and landing
- ☐ Engine failure
- ☐ Fires
- ☐ Emergency equipment and survival

Flight Scenarios

- ☐ Takeoffs and landings - Practice takeoffs, landings and traffic pattern operations.
- ☐ Crosswind takeoffs and landings - Practice wind correction procedures for takeoffs and landings.
- ☐ Emergency operations and landing practice - iIprove wind correction techniques for crosswind takeoffs and landings, and learn techniques for coping with systems and equipment malfunctions, and engine failures both in cruise and immediately after takeoff.

Stage 1, Phase 3 Continued On Next Page

Ground Training Tasks

- ☐ Weight and balance
- ☐ Performance charts
- ☐ Traffic patterns
- ☐ Go-around/rejected landings
- ☐ System and equipment malfunctions
- ☐ Simulated engine failure (at altitude)
- ☐ Simulated engine failure at Vy climb
- ☐ Simulated engine failure at Vx climb
- ☐ Emergency descent

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Risk management
- ☐ Situational awareness
- ☐ Preflight inspection
- ☐ Weight and balance
- ☐ Performance charts
- ☐ Checklist usage
- ☐ Radio communications
- ☐ Normal/crosswind takeoff and climb
- ☐ Collision avoidance
- ☐ Maneuvering during slow flight
- ☐ Stall
- ☐ System and equipment malfunctions
- ☐ Simulated engine failure in a Vy climb attitude (at least 3,000’ AGL)
- ☐ Simulated engine failure in a Vx climb attitude (at least 3,000’ AGL)
- ☐ Emergency descent
- ☐ Traffic patterns
- ☐ Crabbing
- ☐ Sideslip
- ☐ Forward slip
- ☐ Go-around/rejected landing
- ☐ Normal/crosswind approach and landing
- ☐ After landing, parking and securing
- ☐ Simulated engine failure (at altitude)

Phase 3 Completion Standards

- ☐ Consistently perform safe landings with instructor assistance
- ☐ Correct for wind drift without instructor assistance
- ☐ Perform the proper radio communication and traffic pattern procedures
- ☐ Recognize the approach of a stall and use proper recovery procedures
- ☐ Follow the appropriate checklist for emergency operations
- ☐ Have reviewed the Phase Progress Report with your instructor

Stage 1, Phase 4: Preparing for Solo Flight

Objective: The pilot-in-training will practice airport operations, takeoffs, landings, emergency procedures and ground reference maneuvers in order to ensure they are ready for solo flight. The pilot-in-training will also receive a pre-solo briefing as well as take a pre-solo knowledge test .

Web-based Knowledge Objectives

Airspace

- ☐ Basics of the airspace system
- ☐ Class A - G airspace
- ☐ Special use airspace
- ☐ Other airspace areas
- ☐ TFRs
- ☐ Speed limits
- ☐ Weather minimums

Aviation Rules and Terminology

- ☐ Pilot and airplane certification
- ☐ Medical certification
- ☐ Pilot privileges
- ☐ Staying current and qualified
- ☐ Right-of-way
- ☐ Collision avoidance
- ☐ Flying at high or low altitude
- ☐ Air traffic control and LAHSO
- ☐ Accident and incident notification

Flight Instruments and Cockpit Displays

- ☐ AHRS and air data computer
- ☐ Attitude direction indicator
- ☐ Horizontal situation indicator
- ☐ Engine and system indicators
- ☐ Map display
- ☐ Annunciations and messages
- ☐ Basic gyroscopic principles
- ☐ Pitot-static instruments and errors
- ☐ Altimeter errors
- ☐ Magnetic compass principles and errors

GPS, Lost Procedures, and Emergency Instrument Skills

- ☐ GPS
- ☐ Getting there with GPS
- ☐ Climb/Call/ Get Help
- ☐ Using radios to find your location
- ☐ Using emergency instrument skills

Expanded Instructor Briefing

- ☐ CPC safety practices and procedures
- ☐ Airworthiness
- ☐ Preflight preparation and inspection
- ☐ Aircraft performance and operating limitations
- ☐ Fueling
- ☐ Fuel reserves
- ☐ VFR weather minimums
- ☐ VFR cruising altitudes
- ☐ Minimum safe altitudes
- ☐ Careless and/or reckless operation
- ☐ Radio procedures
- ☐ Right-of-way rules
- ☐ ATC light signals
- ☐ Emergency procedures including carburetor icing
- ☐ Collision avoidance
- ☐ Practice area location(s)
- ☐ Traffic pattern
- ☐ Solo flights restrictions
- ☐ Required certificate and logbook endorsements

Flight Scenarios

- ☐ Using your flight display and instruments to control the airplane - Build the skills to handle situations such as lowering visibility or pilot disorientation and use GPS as an aid for situational awareness (if installed), practice ground reference maneuvers and safely handling system and equipment malfunctions.
- ☐ Handling the unexpected - Gain experience in handling unexpected and emergency situations.
- ☐ Getting ready for solo flight - Recover from unusual flight attitudes and fine tune skills for the progress check before your first solo flight.

Stage 1, Phase 4 Continued On Next Page

Ground Training Tasks

- ☐ School safety practices and procedures
- ☐ Airworthiness
- ☐ Preflight preparation and inspection
- ☐ Airplane performance and operating limitations
- ☐ Fueling
- ☐ Fuel reserves
- ☐ VFR weather minimums
- ☐ VFR cruising altitudes
- ☐ Minimum safe altitudes
- ☐ Careless and/or reckless operation
- ☐ Radio procedures
- ☐ Right-of-way rules
- ☐ Failed radio communications and ATC light signals
- ☐ Emergency procedures
- ☐ Collision avoidance
- ☐ Practice area locations
- ☐ Traffic pattern
- ☐ Solo flight restrictions
- ☐ Required certificate and logbook endorsements
- ☐ Controlled flight into terrain awareness
- ☐ 180 degree turn (IR)
- ☐ Emergency communications and ATC resources
- ☐ GPS direct-to/nearest airport functions
- ☐ Wind shear awareness and recovery procedures
- ☐ Wake turbulence avoidance
- ☐ Emergency approach and landing
- ☐ Engine failure during takeoff roll
- ☐ Recovery from unusual flight attitudes (IR)

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Controlled flight into terrain awareness
- ☐ Task management
- ☐ Risk management
- ☐ Preflight inspection
- ☐ Weight and balance
- ☐ Performance charts
- ☐ Checklist usage
- ☐ Emergency equipment and survival gear
- ☐ Positive exchange of flight controls
- ☐ Crosswind taxi
- ☐ Normal/crosswind takeoff and climb
- ☐ Use of trim
- ☐ Go-around/rejected landing
- ☐ Normal/crosswind approach & landing
- ☐ Radio Communications
- ☐ Collision avoidance
- ☐ Maneuvering during slow flight (IR)
- ☐ Spin awareness and recovery procedures
- ☐ Power-off stall (landing config.)
- ☐ Power-on stall (Takeoff/climb config.)
- ☐ Steep turns
- ☐ Basic instrument maneuvers (IR)
- ☐ 180 degree turn (IR)
- ☐ Recovery from unusual attitudes (IR)
- ☐ GPS direct-to/near airport functions (if installed) (VR-IR)
- ☐ Emergency communications and ATC resources
- ☐ Emergency approach and landing (simulated)
- ☐ Emergency descent
- ☐ Engine failure during takeoff role (simulated)
- ☐ System and equipment malfunctions
- ☐ Failed radio communications and ATC light signals
- ☐ Turns around a point
- ☐ S-turns
- ☐ Rectangular course
- ☐ After Landing, parking & securing
- ☐ Traffic patterns
- ☐ Forward slip to a landing

Stage 1, Phase 4 Continued On Next Page

Phase 4 Completion Standards

- Manage all aspects of preflight preparation and decide if the flight is safe to complete
- Consistently and safely control the airplane in all phases of flight by using proper ground, radio and traffic pattern entry/departure procedures for towered and non-towered airports
- Recognize and correctly apply emergency memory items and confirm using a checklist
- Consistently perform safe takeoffs and landings without instructor assistance
- Review the Phase Progress Report with the instructor
- Demonstrate (through the pre-solo knowledge test and oral briefing) the aeronautical knowledge necessary for solo flight operations
- Achieve a minimum score of 70% on the pre-solo knowledge test, corrected and reviewed to 100%, prior to completing this phase Note: The instructor shall place the proper endorsement in the customer's logbook [14 CFR Part 61.87(b)].

Stage 1, Phase 5: First Solo

Objective: After passing a progress/stage check to ensure the pilot-in-training is safe and ready to fly on their own, the pilot-in-training will take their first solo flight.

Web-based Knowledge Objectives

Solo Flight

- ☐ Solo Flight

Progress/Stage Check - Oral

- ☐ Regulations applicable to pilot-in-training pilots (part 61, part 91)
- ☐ Pilot-in-training pilot limitations
- ☐ Safety procedures and practices
- ☐ Certificates and documents
- ☐ Systems
- ☐ Airworthiness requirements
- ☐ Weight and balance
- ☐ Performance and limitations
- ☐ Wake turbulence avoidance
- ☐ Wind shear awareness and recovery procedures
- ☐ Runway incursion avoidance

Progress/Stage Check - Flight

- ☐ Single-pilot resource management
- ☐ Task management
- ☐ Risk management
- ☐ Situational awareness
- ☐ Preflight inspection
- ☐ Weight and balance
- ☐ Performance charts
- ☐ Checklist usage
- ☐ Radio communications
- ☐ Runway incursion avoidance
- ☐ Crosswind taxi
- ☐ Normal/crosswind takeoff and climb
- ☐ Use of trim
- ☐ Collision avoidance
- ☐ Maneuvering during slow flight
- ☐ Stall
- ☐ Spin awareness and recovery procedures
- ☐ Basic instrument maneuvers (IR)
- ☐ GPS (direct-to/nearest airport functions (IR)
- ☐ 180 degree turn (IR)
- ☐ Emergency operations
- ☐ Ground reference maneuver
- ☐ Traffic patterns
- ☐ Go-around/rejected landing
- ☐ Normal/crosswind approach and landing
- ☐ After landing, parking and securing

Progress/Stage Check - Completion Standards

- ☐ Demonstrate the aeronautical knowledge and skill to safely perform a solo flight
- ☐ Consistently and safely land the airplane in normal routine crosswind situations

Flight Scenarios

- ☐ First solo flight - Complete three safe landings with your instructor and then complete three landings (to a full stop) as pilot in command during your first solo flight in the traffic pattern.
- ☐ Second solo flight - Supervised solo flight to increase confidence and ability in the traffic pattern operation. The scenario begins with additional dual instruction including departure procedures to the local practice area and traffic pattern entry. Complete three solo landings to a full stop.

Stage 1, Phase 5 Continued On Next Page

Flight Training Tasks

- ☐ Progress check
- ☐ Single-pilot resource management
- ☐ Preflight inspection
- ☐ Appropriate logbook and certificate endorsements
- ☐ Weight and balance
- ☐ Performance charts
- ☐ Checklist usage
- ☐ Radio communications
- ☐ Runway incursion avoidance
- ☐ Crosswind taxi
- ☐ Normal/crosswind takeoff and climb
- ☐ Use of trim
- ☐ Collision avoidance
- ☐ Traffic patterns
- ☐ Go-around/rejected landing (if necessary)
- ☐ Solo landings (to a full stop)
- ☐ After landing, parking and securing
- ☐ Normal approach & Landing (to a full stop)

Phase 5 Completion Standards

- ☐ Consistently and safely control the airplane in all phases of flight by themselves using proper ground, radio and traffic pattern entry/departure procedures for towered/non-towered airports
- ☐ Recognize and correctly apply emergency memory items and checklists as appropriate
- ☐ Pass the Progress/Stage Check
- ☐ Successfully complete the first solo flight

Stage 2, Phase 6: Getting Ready For Cross-Country Flying

Objective: In this phase, the pilot-in-training will learn short-field and soft-field takeoff and landing techniques, navigation and control of the airplane by reference to the flight display.

Web-based Knowledge Objectives

Advanced Takeoff and Landing Techniques

- ☐ Short-field takeoff and landing
- ☐ Soft-field takeoff and landing

Reading Weather Reports and Charts

- ☐ METARs
- ☐ TAFs
- ☐ Area forecasts (FA)
- ☐ Winds and temperature aloft forecasts
- ☐ Radar weather reports
- ☐ In-flight weather advisories
- ☐ Surface analysis chart
- ☐ Weather depiction chart
- ☐ Low-level significant weather prog chart
- ☐ Weather radar information
- ☐ Convective outlook chart
- ☐ Supplemental and in-flight weather services
- ☐ Cockpit weather displays

Flight Scenarios

- ☐ Solo flight beyond the pattern - Complete first solo flight outside the local traffic pattern while gaining proficiency and confidence in solo operations.
- ☐ Handling the unexpected - Gain proficiency in handling unexpected and emergency situations.
- ☐ Using short or soft-field landings - Learn short and soft-field takeoff and landing techniques.
- ☐ Using electronic navigation / instrument flight - Advance your skills using electronic navigation and flying by instrument reference only, and practice lost procedures.
- ☐ Solo practice - Improve confidence for solo flight by performing ground reference maneuvers and steep turns in the local area.

Ground Training Tasks

- ☐ Lost procedures
- ☐ Short field approach and landing
- ☐ Soft-field takeoff and climb
- ☐ Short field takeoff and climb
- ☐ Soft-field landing approach and landing
- ☐ Stall with a bank (not to exceed 20 degrees)
- ☐ Maneuvering during slow flight (IR)
- ☐ Navigation system/facilities, and radar services (IR)

Stage 2, Phase 6 Continued On Next Page

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Situational awareness
- ☐ Slow flight into terrain awareness
- ☐ Risk management
- ☐ Aeronautical decision making
- ☐ Appropriate logbook & certificate endorsements
- ☐ Short-field takeoff and climb
- ☐ Soft-field takeoff and climb
- ☐ Maneuvering during slow flight (IR)
- ☐ Stall with a bank (not to exceed 20 degrees of bank)
- ☐ Roll control during high angles of attack
- ☐ Spin awareness and recovery procedures
- ☐ Recovery from unusual attitudes (VR-IR)
- ☐ Basic Instrument Maneuvers (IR)
- ☐ Navigation systems/facilities and radar services (IR)
- ☐ GPS direct-to/nearest airport function (IR)
- ☐ Lost procedures
- ☐ Steep turns
- ☐ Rectangular course
- ☐ Turns around a point
- ☐ S-turns
- ☐ Short-field approach and landing
- ☐ Soft-field approach and landing

Phase 6 Completion Standards

- ☐ Recognize where wake turbulence may be present and explain avoidance procedures
- ☐ Recognize where wind shear may be present and explain recovery procedures
- ☐ Consistently and safely control the airplane in simulated instrument flight
- ☐ Utilize radio communications, navigations systems/facilities and radar services as appropriate for lost procedures and simulated instrument conditions
- ☐ Demonstrate the correct procedures for short- and soft-field takeoffs and landings
- ☐ Compensate and correct for wind during all maneuvers and phases of flight
- ☐ Have reviewed the Phase Progress Report with your instructor

Stage 2, Phase 6 Continued On Next Page

Stage 2, Phase 7: Flying Cross-Country

Objective: The pilot-in-training will learn the steps involved in planning and flying a safe and successful cross-country. They will receive a solo cross-country briefing and take the Cessna Pilot Center knowledge test. After passing a progress/stage check, they will complete their first solo cross-country flight.

Web-based Knowledge Objectives

Preparing For Your Cross-Country Flights

- ☐ Chart supplement
- ☐ Sectional and/or terminal area chart
- ☐ Flight service station
- ☐ NOTAMS
- ☐ Route selection
- ☐ Organizing cross-country information
- ☐ Survival gear
- ☐ Using cockpit resources

Basic Navigation Procedures

- ☐ Mechanical flight computer
- ☐ Electronic flight computer
- ☐ Time-speed-distance
- ☐ Fuel problems
- ☐ Wind problems
- ☐ Navigation plotter
- ☐ E6B
- ☐ Pilotage
- ☐ Dead reckoning
- ☐ Basic compass navigation
- ☐ Navigation log
- ☐ FAA flight plan
- ☐ VFR flight following

Expanded Instructor Briefing

- ☐ Required logbook and certificate endorsements
- ☐ Preflight preparation
- ☐ Obtaining weather information
- ☐ Route planning
- ☐ Airplane performance / limitations
- ☐ Navigation log FAA flight plan
- ☐ Radio frequencies and procedures
- ☐ Airspace Airport operations
- ☐ Alternate plans of action in-flight advisories
- ☐ Basic VFR weather minimums
- ☐ Emergency operations
- ☐ Locating ATC frequencies
- ☐ Lost procedures
- ☐ Traffic patterns
- ☐ Runway incursion avoidance

Flight Scenarios

- ☐ Going cross-country - Learn cross-country techniques while experiencing a flight to an unfamiliar destination outside of your local area.
- ☐ Polishing your cross-country skills - Demonstrate the ability to handle unexpected situations that may arise during a cross-country flight.
- ☐ Progress check - See next page.
- ☐ Your first solo cross-country - Fly your first solo day VFR cross-country flight.

Progress Check/Stage Check - Oral

- ☐ Review assigned cross-country flight planning
- ☐ Appropriate logbook and certificate endorsements
- ☐ FAA flight plans
- ☐ Airspace
- ☐ Weather
- ☐ Lost procedures
- ☐ System and equipment malfunctions
- ☐ Runway incursion avoidance

Stage 2, Phase 7 Continued On Next Page

Progress/Stage Check - Flight

- ☐ Single-pilot resource management
- ☐ Route selection
- ☐ Flight publications and currency
- ☐ Obtaining a weather briefing
- ☐ Cross-country flight planning and performance
- ☐ Emergency equipment and survival gear
- ☐ Weight and balance
- ☐ Cross-country navigation log
- ☐ Cockpit management
- ☐ Power settings and mixture control
- ☐ Opening flight plans
- ☐ VFR flight following
- ☐ Pilotage
- ☐ Dead reckoning
- ☐ Navigation systems and radar services
- ☐ Using the federal airway system (as applicable)
- ☐ Diversion to an alternate
- ☐ Lost procedures
- ☐ Emergency operations
- ☐ System and equipment malfunctions
- ☐ Emergency communications and ATC resources
- ☐ In-flight weather resources
- ☐ Closing flight plans

Progress/Stage Check - Completion Standards

- ☐ Demonstrate the ability to plan and safely conduction cross-country flights

Ground Training Tasks

- ☐ Logbook and certificate endorsements
- ☐ Preflight preparation
- ☐ Obtaining weather information
- ☐ Route planning
- ☐ Airplane performance and limitations
- ☐ Navigation log
- ☐ FAA flight plan
- ☐ Radio frequencies and procedures
- ☐ Airspace
- ☐ Airport operations
- ☐ Alternate plans of action
- ☐ In-flight advisories
- ☐ Basic VFR weather minimums
- ☐ Emergency operations
- ☐ Locating ATC frequencies
- ☐ Lost procedures
- ☐ Traffic patterns
- ☐ Runway incursion avoidance

Flight Training Tasks

- ☐ Task management
- ☐ Risk management
- ☐ Situational awareness
- ☐ Aeronautical decision making
- ☐ Controlled flight into terrain awareness
- ☐ Automation management
- ☐ Appropriate logbook and certificate endorsements
- ☐ Route selection
- ☐ Flight publications and currency
- ☐ Obtaining a weather briefing
- ☐ Cross--country flight planning and performance
- ☐ Emergency equipment and survival gear
- ☐ Weight and balance
- ☐ Runway incursion avoidance
- ☐ Cross-country navigation log
- ☐ Cockpit management
- ☐ Power settings and mixture control
- ☐ Opening flight plans
- ☐ VFR flight following
- ☐ Pilotage
- ☐ Navigation systems
- ☐ Using the federal airway system (if applicable)
- ☐ Diversion to an alternate
- ☐ Lost procedures
- ☐ System and equipment malfunctions
- ☐ Emergency communications and ATC resources
- ☐ In-flight weather resources
- ☐ Closing flight plans
- ☐ Progress check
- ☐ Single-pilot resource management
- ☐ Dead reckoning
- ☐ Emergency operations

Stage 2, Phase 7 Continued On Next Page

Phase 7 Completion Standards

- Demonstrate proper cockpit management and single-pilot resource management
- Can locate the frequencies of and utilize in-flight weather and radar resources
- Utilize radio communications, navigations systems/facilities and radar services as appropriate for lost procedures and successful completion of a diversion to an alternate
- Recognize and correctly apply emergency memory items and checklists
- Have reviewed the Phase Progress/Stage Report with your instructor
- Pass the Progress/Stage Check
- Pass the Flight School Knowledge Test

Before the first solo cross-country in Phase 7, the pilot-in-training will take the **Flight School Knowledge test**. This test has questions covering the required FAA knowledge areas.

- Counts as your final exam for the course.
    - Is taken and proctored at your flight school using the Randomly Generated Exam feature section of your course selecting
        - Practice exams
        - Randomly generated exam
        - Start new, and if previous random exams taken, select OK to overwrite previous results
- Safely plan and conduct a cross-country flight without instructor assistance

Stage 2, Phase 8: Flying at Night

Objective: Discover what night flying is all about by taking both a local and a cross-country flight at night.

Web-based Knowledge Objectives

Night Flying and The Human Body

- ☐ Night vision
- ☐ Visual illusions
- ☐ Spatial disorientation
- ☐ Sunset, civil twilight and night
- ☐ Preparation for night flying
- ☐ Airplane lighting
- ☐ Airport lighting
- ☐ Night emergencies
- ☐ Preparation and equipment
- ☐ Route and altitude selection
- ☐ Using the G1000 at night

Radio Navigation

- ☐ Understanding the ADF
- ☐ Using the ADF
- ☐ Using an RMI to intercept and track a bearing
- ☐ Understanding VOR
- ☐ Using VOR radials
- ☐ Testing VOR accuracy

Flight Scenarios

- ☐ Flying at night - learn the fundamentals of night operations.
- ☐ Flying cross-country at night - learn the skills necessary to fly cross country at night.

Ground Training Task

- ☐ Night preparation and planning
- ☐ Required aircraft equipment
- ☐ Night illusions
- ☐ Route selection at night
- ☐ Airport navigation and lighting

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Controlled flight into terrain awareness
- ☐ Night preflight procedures and pilot equipment
- ☐ Route selection
- ☐ Flight publications and currency
- ☐ Obtaining a weather briefing
- ☐ Cross-country flight planning and performance
- ☐ Cross-country navigation log
- ☐ Cockpit management
- ☐ Power settings and mixture control
- ☐ Opening flight plans
- ☐ VFR flight following
- ☐ In-flight weather resources
- ☐ Pilotage and dead reckoning
- ☐ Navigation systems
- ☐ Lost procedures
- ☐ Emergency equipment and survival gear
- ☐ Emergency communications and ATC resources
- ☐ Recovery from unusual attitudes
- ☐ Landing with and without a landing light
- ☐ Night takeoffs and full-stop landings
- ☐ Closing flight plans

Phase 8 Completion Standards

- ☐ Safely control the airplane and navigate during night operations
- ☐ Utilize radio communications, navigations systems/facilities and radar services as appropriate for lost procedures and simulated instrument conditions
- ☐ Recognize and correctly mitigate potential emergency situations
- ☐ Complete FAA night training requirements
- ☐ Review the Phase Progress Report with your instructor

Stage 2, Phase 9: Advancing Your Skills

Objective: The pilot-in-training will take a solo cross-country flight.

Web-based Knowledge Objectives

The Longer Cross-Country Flight

- ☐ Before you go
- ☐ Keeping track of your progress

Flight Scenarios

- ☐ Polishing emergency instrument skills - Practice the instrument skills necessary to recover safely from inadvertent flight into areas of marginal weather and reduced visibility, increase the efficiency of simulated short and soft-field operations and practice decision-making skills for emergency operations.
- ☐ Solo cross-country practice -Practice solo cross-country operations and aeronautical decision making.
- ☐ Long solo cross-country - Complete the solo cross-country flight requirements for your private pilot certificate.
- ☐ More solo practice - Practice maneuvers in preparation for the final phase of training.

Ground Training Tasks

- ☐ Cross country flight planning and performance

Flight Training Tasks

- ☐ Single-pilot resource management
- ☐ Task management
- ☐ Risk management
- ☐ Situational awareness
- ☐ Aeronautical decision making
- ☐ Controlled flight into terrain awareness
- ☐ Automation management
- ☐ Appropriate logbook and certificate endorsements
- ☐ Route selection
- ☐ Flight publications and currency
- ☐ Obtaining a weather briefing
- ☐ Cross-country flight planning and performance
- ☐ Cross-country navigation log
- ☐ Cockpit management
- ☐ Power settings and mixture control
- ☐ Opening flight plans
- ☐ VFR flight following
- ☐ In-flight weather resources
- ☐ Basic instrument maneuvers (IR)
- ☐ 180 degree turn (IR)
- ☐ GPS orientation and tracking (IR)
- ☐ Pilotage and dead reckoning
- ☐ Navigation aids and radar services
- ☐ Recovery from unusual attitudes (IR)
- ☐ Emergency operations
- ☐ Steep turns
- ☐ Maneuvers assigned by your instructor
- ☐ Ground reference maneuvers
- ☐ Short-field takeoff and maximum performance climb
- ☐ Short-field approach and landing
- ☐ Soft-field takeoff and climb
- ☐ Soft-field approach and landing
- ☐ Closing flight plans

Phase 9 Completion Standards

- ☐ Safely plan and conduct a cross-country flight without instructor assistance
- ☐ Utilize radio communications, navigations systems/facilities and radar services as appropriate for simulated instrument conditions
- ☐ Recognize and correctly apply emergency memory items and checklists
- ☐ Perform short and soft-field landings utilizing correct procedures
- ☐ Review the Phase Progress Report with your instructor

Stage 3, Phase 10: Preparing for your Practical Test

Objective: In the final phase, the pilot-in-training will review everything they have learned. After passing the final progress/stage check, they have completed the course and are ready for the FAA practical test.

Web-based Knowledge Objectives

How To Pass Your Checkride

- ☐ FAA form 8710
- ☐ Airplane logbooks
- ☐ Items to bring
- ☐ Airman certification standards (ACS)
- ☐ Oral exam helpful hints
- ☐ You are the PIC

Your Responsibilities as a Certified Pilot

- ☐ Staying current
- ☐ Broadening your horizons
- ☐ Transitions to unfamiliar airplanes
- ☐ Flying safely and risk management
- ☐ Coping with passenger anxiety or illness

Expanded Instructor Briefing

- ☐ Practical test checklist
- ☐ Application for airman certificate (FAA Form 8710)
- ☐ Certificates and documents
- ☐ Airworthiness requirements
- ☐ Weather
- ☐ Cross-country flight planning
- ☐ Airspace
- ☐ Performance and limitations
- ☐ Operation of systems
- ☐ Aeromedical factors
- ☐ Radio communications Emergency operations
- ☐ ATC light signals [Private Pilot only]
- ☐ Night operations [Private Pilot only]

Final Progress/Stage Check - Oral

- ☐ All items in the applicable airman certification standards (ACS)

Flight Scenarios

- ☐ Mock FAA practical test - fly with a designated instructor to ensure you are ready for the practical test.
- ☐ Final progress check (see below)

Final Progress/Stage Check - Flight

- ☐ All items in the applicable airman certification standards (ACS)

Final Progress/Stage Check - Completion Standards

- ☐ Perform to the Airman Certification Standards (ACS) in all areas

Phase 10 Completion Standards

- ☐ Perform to the current certification standards for the Sport or Private pilot certificate as appropriate
- ☐ Pass the final Progress/Stage Check
- ☐ Successfully complete all of the web-based knowledge instruction for the course.

PHASE 1, SCENARIO 1: Your First Flight

Objective:
Introduce new terms, preflight procedures, ground operations, basic aircraft control and postflight procedures
INSTRUCTOR NOTE: This scenario is designed to introduce the customer to the joys of flying while familiarizing them with the training airplane and local flight environment.
Where to go:
A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Pilotage
INSTRUCTOR NOTE: Point out major landmarks and reporting points from the air.
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
Conduct normal checklist procedures for all appropriate phases of flight with instructor input
INSTRUCTOR NOTE: The customer is encouraged to read each item on the checklist and perform the action with instructor assistance.
Risks (real or simulated):
Traffic
INSTRUCTOR NOTE: Point out any traffic you see to the customer during ground and flight operations, helping to increase the customer's awareness of collision avoidance procedures.

New this scenario:
Safety practices and procedures
- *Review school safety practices and procedures*

Study material and habits
- *Introduce the customer to the required materials as well FAA publications such as the Pilot's Handbook of Aeronautical Knowledge, Airplane Flying Handbook, FAR/AIM, ACS and http://www.faasafety.gov/*
- *Emphasize that being prepared for a flight is key to keeping performance high and cost low*

Preflight inspection
- *Guide the customer through a proper preflight inspection*
  - *The customer holds the checklist and reads each item as you provide assistance*

Checklist usage
- *Set the tone and expectation that checklists are key to safe operations*

Operation of systems
- *Discuss and explain the primary flight controls and trim, environmental controls and landing gear*

Location of fire extinguisher
- *Point out the location of the fire extinguisher, demonstrate how to remove it*
- *Emphasize that if the extinguisher is needed, point it at the base of the fire*

Doors and safety belts
- *Demonstrate the proper use of seatbelts and doors*

Engine starting and warm-up
- *The customer will start the airplane, with assistance as needed, and set the RPM recommended in the pilot's operating handbook*

Positive exchange of flight controls
- *Emphasize the importance of always knowing who is the actually flying the airplane*
  - *"I have the controls", "You have the controls", "I have the controls"*

Taxiing
- *Describe as a fast walking pace or a slow jog*
- *Emphasize collision avoidance at intersections and not riding the brakes*

INSTRUCTOR NOTES

Appendix A

Engine run-up
- *Discuss the importance of where the prop blast is directed*
- *Emphasize the need to straighten the nose wheel for easy exit from the run-up area after completion*
- *Emphasize the need to look outside and verify the parking brake or toe brakes are holding and the airplane is stationary when adding power*

Before takeoff check
- *Emphasize the importance of this check*
  - *Can use 'Lights, Camera, Action' as a memory aid*

Normal takeoff and climb – DEMO
- *Demonstrate the takeoff and initial climb, verbally describing actions*

Climbs *(note aircraft attitude for V_Y)*
- *Stabilize the airplane at best rate of climb and point out the attitude relative to the horizon (or sight picture) and reference the 10° mark on the attitude indicator*
- *Note that a good practice can be to lower the nose every 500 feet for collision avoidance*

Level off
- *Emphasize the order of "Pitch, Power, Trim"*

Use of trim
- *Have the customer set the attitude to level, observe if the airplane moves to nose high or low, reset the attitude to level and trim, repeating the process as necessary*

Straight-and-level flight
- *Point out the sight picture using the wings and nose as a reference to the horizon*
- *Emphasize that any small altitude changes or corrections are made using the control wheel and that flying is simply a series of small corrections*

Area familiarization
- *Point out local landmarks used to navigate to and from the home airport*

Collision avoidance
- *Emphasize that because you are flying VFR you are responsible for your own separation from other aircraft*
- *Demonstrate proper scanning techniques and point out any traffic using clock position ("at one o'clock") to relate the position*

Stability demo *(yaw-pitch-roll)*
- *While straight-and-level, demonstrate that the airplane is inherently stable and tends to return to equilibrium*
  - *Give a small push to the rudder, watching the nose come back to center*
  - *Give a small push or pull on the control wheel, watching the nose eventually return to level*
  - *Give a small pressure on either side of the control wheel, watching the wings eventually level*

Medium banked turns
- *Explain that before you turn you should always raise the wing to look for any traffic*
- *Perform clearing turns at 30 degrees of bank*
  - *Describing that 'clearing turns' can be a 180-degree turn or two 90-degree turns (left-right or right-left)*

Turn coordination
- *Establish the customer's awareness of rudder control and that right rudder is needed during climbs*

Back pressure in a turn
- *Explain that when banking, a portion of the vertical lift is transferred to horizontal lift and used to pull the airplane through the turn*
  - *Therefore back pressure is required to compensate for the loss of vertical lift during a turn*
    - *Point out that this same back pressure is to be released when rolling out of a bank, failure to release the added back pressure will result in a climb*

Turn entry and roll out
- *Try to use landmarks to start and exit the turn*
- *Share the rule of thumb to 'lead the roll out by half of the bank angle used'*

Descents
- *Discuss powers settings, pitch and airspeed desired and where the descent should start*

Normal approach and landing – DEMO

- *Demonstrate the approach and landing, verbally describing actions*

After landing, parking and securing

- *Emphasize that no checklist is to be started until clear of the runway and stationary*
- *Teach the customer proper parking and securing procedures*

Appendix A

PHASE 1, SCENARIO 2: Controlling the Airplane

Objective:
Learn proper rudder usage, get more comfortable with the airplane controls and learn how to set the airplane pitch/power combination for your desired phase of flight.
INSTRUCTOR NOTE: This scenario is designed to increase the customer's comfort with the training airplane and ability to properly manipulate the flight controls as well as exercise and improve hand-eye-feet coordination skills. Point out proper attitude and pitch combinations (or sight pictures) as necessary. The customer should begin to associate the four components of attitude flying: pitch control, bank control, power control and trim.
Where to go:
A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic with the main goal being area familiarization
INSTRUCTOR NOTE: Increase the customer's familiarity with the local training environment by pointing out notable landmarks and reporting points. If possible, go to another airport within 25 nm.
How to get there:
Pilotage
INSTRUCTOR NOTE: Increase the customer's situational awareness by pointing out visual checkpoints that may appear on the sectional and actively use pilotage to navigate.
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You and a friend have plans to fly to a nearby town to see your mutual friend make his season debut for a semi-professional baseball team. You are running late and have already had to return home to grab a camera you forgot because you were in a hurry.
INSTRUCTOR NOTE: The goal is to simulate a scenario where the customer is short on time and has already forgotten critical items from being in a rush. Create the aura that time is critical – a realistic situation we often encounter. A discussion of risk management, including the recognition of any potential hazardous attitudes and/or hazards, and proper checklist usage can help to instill proper safety habits.
Risks (real or simulated):
Traffic
INSTRUCTOR NOTE: Point out any traffic and collision hazards in flight and on the ground.

New this scenario:
Risk management
- *From this scenario on, be sure to help guide the customer to recognize and point out any risks that may exist in the flight.*
  - *Risk exists for every flight; help the customer start to identify these risks on their own.*

Cockpit management
- *Instill the importance of organizing all materials in the cockpit.*
- *Most people learn by example.*
  - *Be sure that you provide a good example by having a kneeboard with pen/pencil and paper, current navigation charts and a current Chart Supplement.*
- *Discuss the importance of having materials accessible in the cockpit such as a G1000 User Guide, if required, and POH/AFM.*

Left turning tendencies
- *Discuss that at slow airspeeds, high power settings and high angles of attack, the left-turning tendencies are the greatest.*
  - *Get the customer used to the idea that during these conditions, such as takeoff and climb, continuous right rudder pressure will be needed as necessary.*

Aileron/Rudder coordination exercise *(30-degree bank side-to-side keeping the nose at one point on the horizon)*
- *The objective is to bank smoothly, continuously left and right while holding the nose on a heading at one point on the horizon.*
- *Roll at least 30 degrees of bank in each direction. Have the customer rock the wings using coordinated aileron and rudder pressures.*

- *Aileron and rudder inputs are applied together, in the same direction (left aileron, left rudder; right aileron, right rudder).*
    - *Point out that aileron is the primary input. Rudder is a secondary input applied in response to the aileron input.*
- *Do not look at the slip/skid ball. Have the customer perform the exercise looking outside, over the nose.*

Constant airspeed climbs *(V_X, V_Y, cruise climb)*

- *Be sure to point out the sight picture relative to the horizon for V_X, V_Y and cruise climb.*
    - *Specifically, have the customer focus on remembering the sight picture of V_Y.*
    - *Note the rate of climb in feet per minute when in established at V_Y.*
        - *Time permitting, compare it to the information provided in the Performance section of the pilot information manual (PIM) after the flight*

Constant airspeed descents

- *Point out the sight picture relative to the horizon for a descent at 90 knots*

Climbing and descending turns

- *Have the customer turn to a prominent land mark or heading changing approximately 90 to 180 degrees in each direction and level off once at that heading*
    - *Explain to the customer that during a climbing turn, right rudder may be needed regardless of the direction of the turn*

Descents with/without flaps

- *Be sure to point out the placard for V_{FE} near the flap lever*
- *Instill the habit of reducing power before setting the flaps when starting a descent*
- *Note the rate of descent with flaps, then note the rate of descent without flaps*

Power-off descent at best glide airspeed *(note aircraft attitude relative to the horizon)*

- *This should be completed at a higher altitude to help the customer feel more comfortable.*
    - *Emphasize the importance of knowing the sight picture (airplane attitude relative to the horizon) for best glide speed*
    - *Note the rate of descent when established at best glide speed*
        - *Time permitting, compare it to the information provided in the Emergency Procedures section of the pilot's information manual (PIM) after the flight*

Descent at approach airspeed in landing configuration

- *This should be completed at a higher altitude to help the customer feel more comfortable.*

Improving your skills:

Preflight inspection

- *Discuss the amount of fuel each tank can hold, how much is usable, how you can tell the amount of fuel in the tanks and the average hourly fuel consumption for the airplane.*

Checklist usage
Operation of systems
Engine starting and warm-up
Positive exchange of flight controls
Taxiing
Engine run-up
Before takeoff check
Normal takeoff and climb - DEMO
Level off
Use of trim
Straight-and-level flight
Area familiarization
Collision avoidance
Medium banked turns
Turn coordination
Back pressure in a turn
Turn entry and roll out
Normal approach and landing - DEMO
After landing, parking and securing

Appendix A

PHASE 1, SCENARIO 3: Increasing Awareness

Objective:
Perform preflight procedures, ground operations, basic aircraft control and postflight procedures with minimal instructor assistance. Practice flying slowly near stall speed.
INSTRUCTOR NOTE: This scenario is designed to introduce the customer to the procedures of slow flight and an imminent power-off stall. Be aware that a good amount of new pilots are apprehensive about stalls and flying slowly. Getting them comfortable in each of these areas at an early phase of training is key. Practice the procedures of getting into and out of slow flight a few times. Be sure to review the mechanics of a stall and the procedures for a power-off stall with the customer. Explain that you are not going to stall the airplane today, but will recover at the stall warning when the approaching stall is imminent. Have the customer recover without power the first couple of times to associate the fact that stall recovery is done by reducing the angle of attack; the addition of power merely creates additional airflow over the wing.
Where to go:
A point within 30 minutes flight time that is assigned by your instructor before the flight
INSTRUCTOR NOTE: Fly to a point of interest to the customer, a nearby airport, or a predetermined location provided by the instructor.
How to get there:
Pilotage
INSTRUCTOR NOTE: Actively use pilotage to navigate, matching what is seen outside the cockpit to a sectional or terminal area chart.
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You want to complete your flight lesson but have had only 4 hours of sleep the night before because of a personal emergency. You have been misplacing things throughout the day and feel frustrated. It is too late to cancel as it is past the 24 hour cancellation period.
INSTRUCTOR NOTE: The purpose is to get the customer to recognize that at times it may be necessary to cancel a flight in the interest of safety even when the repercussions aren't good. The customer should also realize that a pilot's mental state is just as important as his or her physical state.
Risks (real or simulated):
Pilot fatigue
INSTRUCTOR NOTE: The goal is to get the customer to recognize fatigue as a risk and utilize all resources to mitigate risk.

New this scenario:
Single-pilot resource management (SRM)

- *Now is the time to instill the concept of SRM into the customer. Incorporate SRM into every flight by using simple checklists such as IMSAFE, PAVE, CARE or the 5 Ps.*
    - *By actively incorporating SRM into all scenarios, the customer will naturally develop confidence, independence and decision-making skills.*

Task management

- *Responsibility of task management should start to slowly be transitioned to the customer, starting with this scenario.*
    - *A maneuver is a task.*
        - *The customer must know the correct procedure(s) to manage a task on the ground before attempting it in the air.*
- *Task management is a part of single-pilot resource management (SRM) and is evaluated with increasing standards for every phase.*

Maneuvering during slow flight

- *Be sure to emphasize performing the pre-maneuver checklist and clearing turns.*
- *Practice the procedures used to get into and out of slow flight a few times.*
- *Emphasize the maximum bank angle while demonstrating slow flight should be approximately 15 degrees and that the four fundamentals of flight are demonstrated (straight-and-level, turns, climbs, descents).*

- *Point out that the control wheel is used to maintain positive control of the airplane while transitioning into and out of slow flight, preventing any gain and/or loss of altitude.*

Power-off stalls (*imminent*)

- *Perform more clearing turns as necessary.*
- *Have the customer establish a stabilized descent at approach speed with full flaps*
- *Next have the customer transition smoothly from the approach and landing attitude to a pitch attitude that will induce the stall.*
    - *Generally speaking, the smoother the transition to the stall, the more docile the stall.*
- *Repeat the task until the customer is relatively comfortable with the setup of a power-off stall, can recognize an approaching stall, and takes corrective action to prevent the stall from occurring.*

Improving your skills:

Preflight inspection

- *Discuss procedures to get any needed fuel and/or oil.*
- *Monitor the customer's preflight inspections; allow them to do the preflight while you only correct omissions or incorrect procedures as necessary.*
    - *Quiz the customer on the amount of usable fuel available for each tank, the current amount of fuel and the average fuel consumption for the airplane.*
    - *Quiz the customer on the airplane's flight control surfaces, systems, and engine components.*

Risk management

- *Guide the customer to identify any risks throughout the flight.*

Cockpit management

- *A kneeboard with pen/pencil and paper, current navigation charts and a current chart supplement are desired.*
- *The POH/AFM and any required manuals should be within reach of the pilot.*

Checklist usage

- *The customer should complete all checklists and properly stow them when not in use.*

Operation of systems

- *Allow the customer to perform all required functions, providing assistance as necessary*

Engine starting and warm-up
Positive exchange of flight controls
Taxiing
Engine run-up
Before takeoff check
Normal takeoff and climb - DEMO
Left turning tendencies
Aileron/Rudder coordination exercise *(30-degree bank side-to-side, nose at one point on the horizon)*
Constant airspeed climbs *(V_X, V_Y, cruise climb)*
Constant airspeed descents
Climbing and descending turns
Level off
Use of trim
Straight-and-level flight
Area familiarization
Collision avoidance
Medium banked turns
Turn coordination
Back pressure in a turn
Turn entry and roll out
Descents with/without flaps
Power-off descent at best glide airspeed *(note aircraft attitude relative to the horizon)*
Descent at approach airspeed in landing configuration
Normal approach and landing - DEMO
After landing, parking and securing

Appendix A

PHASE 2, SCENARIO 1: Recognizing and Recovering From Stalls

Objective:
Learn how to correct for the wind while taxiing, perform effective radio communications, improve overall aircraft control, and learn the skills to recognize, avoid, and recover from a stall as well as local traffic pattern operations
INSTRUCTOR NOTE: Ensure that the customer is comfortable and understands the key concepts in recognizing, recovering from and preventing a stall. We often fear what we don't understand. A key point in this scenario is not only to teach the customer how to stay coordinated during flight at high angles of attack, but to also provide confidence and encouragement in this area through repeated practice.
Where to go:
The vicinity of the highest obstacle in a 20 nautical mile radius, keeping the appropriate legal distance (vertical and horizontal) from the obstacle and then to suitable airspace for the maneuvers
INSTRUCTOR NOTE: Using the sectional (or terminal area chart if appropriate), locate the highest obstacle within a 20nm radius of your home airport. Discuss chart markings for obstacles/elevation as well as minimum safe altitudes.
How to get there:
Pilotage
INSTRUCTOR NOTE: Have the customer point out a few landmarks to you from the past flights.
Possible deviations:
None
Possible malfunctions:
None
Purpose/pressures (real or simulated):
You need to take an aerial photo for a client of the highest obstacle within a 20 nm radius of your home airport. The deadline for the photography is tomorrow morning at 9 am.
INSTRUCTOR NOTE: Discuss the factors present that may affect the go/no-go decision as well as any outside pressures that may be of influence to the pilot. Most flights, as this one, have an ultimate purpose and an outside pressure to complete the flight as planned. Emphasize the pilot in command has the final authority as to the operation of that flight. Safety should never be compromised.
Risks (real or simulated):
Traffic, flying at or near stall speed, flying near a high obstacle
INSTRUCTOR NOTE: Generally we do best what we do most. This is the first time that the customer is handling the airplane at slow airspeeds, at and near the critical angle of attack. It is natural for the customer to feel apprehensive or unsure; the best antidote is to ensure that the customer is thoroughly educated in and understands stall theory and the practical use of the flight controls when approaching the stall, during the stall, and during the recovery. The customer needs to be able to meet the 'Explain' level of learner-centered grading for the procedures on the ground before attempting in flight.

New this scenario:
Radio communications

- *Write a short script (one or two sentences) for the customer to use*

The customer should practice the communication in the cockpit before keying the mic

- *Be prepared to take over as necessary*
- *Be encouraging and reassuring as it's the first attempt for the customer*
  - *Let the customer know that with practice, repetition and a few fumbles, he or she will be communicating effectively in no time.*

Crosswind taxi

- *Set the heading bug, if available, to the wind direction*
  - *This will help the customer visualize the wind in relation to the airplane while taxiing*
    - *If the wind is behind you, "dive away"*
      - *Control wheel full forward*
      - *Ailerons opposite the direction the wind is blowing from*
    - *If the wind is coming at you, "neutrally confront it"*
      - *Control wheel neutral*
      - *Ailerons into the direction the wind is blowing from*
  - *Point out the elevator if you are in a dive-away position to show the customer how the wind Is blowing over the elevator to prevent it from being lifted up*

Normal/crosswind takeoff and climb

- *Ensure that the customer is using proper wind correction procedures*
- *Minimal instructor assistance should be used as necessary*

Roll control at high angles of attack (rudder usage)

- *Emphasize that at high angles of attack*
  - *The rudder is the primary control to use to keep the wings level, not the ailerons.*
  - *The wings can be used as a reference to judge the airplane attitude relative to the horizon.*

Use of rudder in stall recovery

- *Emphasize that proper rudder usage will keep the airplane coordinated and the stall more docile.*
  - *If the airplane is uncoordinated at the stall, a wing will drop.*
    - *Instruct the customer to use opposite rudder to raise the dropped wing.*
      - *This will add airflow over the over the slower descending wing to give it lift.*

Use of power in stall recovery

- *Emphasize that maximum allowable power is to be used during stall recovery.*
  - *The greater the power applied, the less the loss of altitude.*

Stall/spin awareness

- *Discuss what an incipient spin is and review spin recovery procedures in the pilot's information manual.*
- *Is the airplane approved for spins? Where would you look to find that out? Type Certificate Data Sheet? Limitations section of the POH? A placard?*
- *Have the customer use the acronym PARE to help remember the recovery procedures.*
  - *PARE*
    - *Power-idle*
    - *Ailerons-neutral*
    - *Rudder-full pressure opposite the direction of the spin*
    - *Elevator- forward to break the stall*

Power-off stalls (landing configuration)

- *First, have the customer recover from the stall without power and without entering a secondary stall.*
  - *You may need to repeat this recovery a few times to decrease any apprehension on part of the customer.*
- *Once the customer is relatively comfortable with recovering from a full stall by reducing the angle of attack, then introduce the use of full power to aid in stall recovery.*
- *As the power becomes effective and safe airspeed is regained, have the customer raise the flaps in increments.*
  - *Waiting to accelerate to V_X or V_Y before the final flap retraction*
  - *When the airplane is stabilized and climb speed is attained, return to the previous altitude.*
    - *Outside of the training environment, a stall would most likely be followed by a climb to a secure altitude.*

Power-on stalls (*imminent*- climb configuration)

- *Be sure to clear the area for other traffic.*
- *The goal is to have the customer get used to controlling the airplane at high angles of attack, low airspeed, and full power.*
  - *This is likely to be the most torque (yaw) that has been experienced by the customer thus far.*
- *Make sure to have the customer slow to lift-off speed first, and then apply 65% available power.*
  - *This will help to avoid an excessively steep nose-up attitude for a long period of time before the airplane stalls.*
  - *After the climb attitude is established (approximately 10 degrees nose up), have the customer bring the nose smoothly upward to an attitude impossible for the airplane to maintain and hold at that attitude until the stall warning occurs*

Traffic pattern entry and departure procedures

- *Discuss appropriate methods to exit the traffic pattern and the method that you will be using*
  - *Have the customer note the length of the runway(s) to be used, as well as any special traffic procedures listed the chart supplement*
  - *Compare the runway length in feet to a nautical mile*
  - *Use this comparison to help the customer approximate the distance of a nautical mile from the air*
- *Reference use of the wing to determine proper distance from the runway when entering the pattern*

Normal/crosswind approach and landing

Appendix A

- *Talk the customer through the approach to landing as far as possible into the approach before taking the controls to land*

Improving your skills:
Preflight inspection
Single-pilot resource management (SRM)
Checklist usage
Operations of systems
Positive exchange of flight controls
Use of trim
Aileron/Rudder coordination exercise
Collision avoidance
Turn coordination
Maneuvering during slow flight
After landing, parking and securing

PHASE 2, SCENARIO 2: Correcting for the Wind in Flight

Objective:
Learn how to properly correct for wind drift in flight and near the ground, use previously learned rudder coordination skills to perform a coordinated, full power-on stall
INSTRUCTOR NOTE: Ensure that the customer has an understanding of proper wind correction procedures and knows which ground reference maneuver they are to try for the first time. Knowing the procedures on the ground minimizes the frustration in the air. Review procedures used to avoid an extremely nose-high attitude while demonstrating a power-on stall, control movements used to keep the airplane coordinated and to recover from a fully stalled condition.
Where to go:
A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic that allows for easy visual tracking of a straight line along the ground
INSTRUCTOR NOTE: A relatively straight line along the ground is needed to properly demonstrate correcting for wind in flight. Choose a destination that will demonstrate the effects of a crosswind.
How to get there:
Pilotage
INSTRUCTOR NOTE: Have the customer plot and point out the visual checkpoints used to navigate to and from the survey site.
Possible deviations:
None
Possible malfunctions:
None
Purpose/pressures (real or simulated):
You are taking a flight to accomplish important survey work (instructor will specify location) that is due within 24 hours.
INSTRUCTOR NOTE: Specify the survey sight beforehand. Review any risks that flying to and from the survey site may present.
Risks (real or simulated):
Traffic, terrain
INSTRUCTOR NOTE: Help the customer identify the maximum elevation figure (MEF) on the sectional and/or terminal area chart. Discuss the meaning of this number and the amount of obstacle clearance it provides.

New this scenario:
Crabbing
- *Note the wind direction and speed*
- *Emphasize that the stronger the wind, the larger the crab angle*
- *Use a prominent landmark, such as a shoreline or road, with a direct crosswind to track progress*

Ground reference maneuver
- *Ground reference maneuver of the instructor's choice*
    - *Be sure to relate groundspeed to bank angle*
        - *The higher the groundspeed, the greater the bank angle*
        - *The lower the groundspeed, the less the bank angle*

Sideslip
- *Emphasize that this is used when the airplane's longitudinal axis needs to remain in line with the flight path, such as with landing*
- *The wing is lowered and just enough opposite rudder is applied to prevent a turn*

Forward slip
- *Emphasize that the power is set to idle with full rudder deflection*
- *Ailerons are used to correct for drift as necessary*
- *The slip should be made into the wind if possible*
- *Have the customer note the descent rate and airspeed*

Power-on stall (takeoff configuration)
- *Make sure to have the customer slow to lift-off speed first, then apply 65% available power*

- *This will help to avoid an excessively steep nose-up attitude for a long period of time before the airplane stalls*
- *After the climb attitude is established (approximately 10 degrees nose up), have the customer bring the nose smoothly upward to an attitude impossible for the airplane to maintain and hold at that attitude until the stall occurs*
  - *The control wheel must be moved progressively further back as the airspeed decreases to maintain the attitude*
  - *At the full stall, it will have reached its limit and cannot be moved back any farther*

Improving your skills:
Preflight inspection
Checklist usage
Operations of systems
Radio communications
Positive exchange of flight controls
Crosswind taxi
Normal/crosswind takeoff and climb
Traffic pattern entry and departure procedures
Use of trim
Collision avoidance
Descent at approach speed in landing configuration
Normal/crosswind approach and landing
After landing, parking and securing

NOTE:
Demonstrate the difference between the two wind correction techniques crabbing and a sideslip while at altitude
- *Simulating a descent at approach airspeed in the landing configuration*
- *Using an outside reference line as your simulated runway*

PHASE 2, SCENARIO 3: Making Steep Turns

Objective:
Develop planning, timing and coordination skills while practicing how to properly roll in and out of a steep turn; manipulating the proper controls to maintain a constant airspeed and altitude throughout the steep turn. Learn how to control the airplane by reference to instruments only.
INSTRUCTOR NOTE: The scenario is designed to allow the customer to practice aeronautical decision making skills by making a go/no-go decision considering regulations and possible consequences. Ensure that the customer has an understanding of the effect of bank angle on vertical and horizontal lift and control inputs required to compensate for these changes.
Where to go:
A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Pilotage
INSTRUCTOR NOTE: Ask the customer your height above ground level when over the visual checkpoints. If flying over any towers, ask the customer the legal height and distance you are required to be from the obstructions as well as your actual clearance from the obstruction.
Possible deviations:
None
Possible malfunctions:
Radio failure
INSTRUCTOR NOTE: Review the possible types of radio failures and corrective actions. Would you be able to land at your base airport without a radio? Why or why not?
Purpose/pressures (real or simulated):
This is the only training block you could get all week with your instructor. The airplane you are dispatched has the following written up for the airplane:

- Landing light inoperative
- The controller reported difficulty understanding radio transmissions from the airplane.

INSTRUCTOR NOTE: These items don't restrict the flight but may present an unnecessary risk if the radio does fail. Discuss the significance of the landing light for collision avoidance and when it may be required.
Risks (real or simulated):
Traffic, increased load factor and stall speed during steep turns, pilot disorientation during flight by reference to instruments only
INSTRUCTOR NOTE: Further develop division of attention pointing out traffic as ATC would, using clock position. Discuss the significant increase of load factor after a bank has reached 45 or 50 degrees, pointing out that the load factor for any aircraft in a 60° bank is 2 Gs and increases the stall speed by approximately one-half. .

New this scenario:
Aeronautical decision making

- *Guide the customer through the go/no-go decision making process, and allow the customer to reach a conclusion independently if possible*

Steep turns

- *Be sure to note a visual reference and move the heading bug to match, if available. Emphasize the importance of starting in a straight-and-level attitude, trimmed for the proper airspeed.*
- *Next, demonstrate 360-degree steep turn, describing all actions including addition of power to maintain airspeed as well as elevator pressures.*
    - *Point out the sight picture and clues to help know if you're descending or climbing.*
    - *Be sure to describe the rollout*
        - *Specifically: when to start the roll out, take out the added power and elevator pressure needed to prevent the nose from 'ballooning' up when returning to straight-and-level*
- *Have the customer practice a 360-degree steep turn in both directions, pausing in between to reset.*
    - *If the customer is descending*
        - *Point out the sight picture (more land), the increased noise of the propeller and the vertical descent rate as clues*

        - *Have the customer reduce the bank angle up to 10 degrees (as necessary), add back pressure, and adjust throttle as necessary to maintain airspeed, stop the descent and possibly regain altitude.*

Basic instrument maneuvers (IR)

Note: (IR) indicates 'instrument reference'. A view-limiting device such as a hood or view-restricting glasses will be needed anytime (IR) is indicated.

- *Straight-and-level flight, turns to a heading, constant airspeed climb and descents*

Improving your skills:

Preflight inspection

- *Check the customer's attention to detail when performing a preflight inspection.*
    - *Before the customer arrives at the airplane, you may consider placing a note on the airplane indicating an unairworthy condition such as a missing hinge bolt, removing a required document or placing a note labeled "INOP" over a required instrument*
        - *This will test the customer's accuracy and attention to detail during the preflight inspection.*
    - *If the customer misses the item and deems the airplane airworthy, review the missed item.*
        - *Point out that many pilots get in a hurry or may get complacent during preflight inspections and such items as a rudder lock have been left on unintentionally and have caused accidents.*

Stall/spin awareness

- *Verbally review spin recovery procedures*

Single-pilot resource management (SRM)

- *Discuss the write-up of the radio. Was it the previous pilot's headset, the avionics, radio signal interference? Is there a handheld mic in the airplane? What would happen if once in the air you were unable to use the radio?*

Checklist usage

- *The customer should be independently performing all checklists. Prompt the customer to perform a checklist if necessary.*

Operations of systems

- *The customer should be familiar with the radio control volume, squelch and frequency controls. Intercom volume control should be demonstrated, if available.*

Radio communications

Positive exchange of flight controls

Crosswind taxi

Normal/crosswind takeoff and climb

Use of trim

Collision avoidance

Turn coordination

Power-off stalls (landing configuration)

- *Have the customer verbally review the procedures in the airplane and clear the area before demonstrating. Minimal instructor input or guidance should be needed.*
- *Include power-off stalls in shallow-banked turns to the left and right*

Traffic pattern entry and departure procedures

Crabbing

Sideslip

Descent at approach speed in landing configuration

Normal/crosswind approach and landing

After landing, parking and securing

PHASE 2, SCENARIO 4: **Progress Check**

The Progress Check is to be completed after completing the Phase 2 Proficiency Checklist. An appropriate instructor will check your progress of learning and the effective pairing of you and your primary instructor.

Objective:
To check that your progress in the course is sufficient to move to the next phase of training
INSTRUCTOR NOTE: The customer may require instructor assistance in some areas. This flight is to check that the customer is learning at the appropriate pace, spot any areas of difficulty and assess the pairing of the flight instructor and customer.
Where to go:
A point within 30 minutes that is suitable airspace free from obstructions and dense traffic
INSTRUCTOR NOTE: Allow the customer to get you to the desired destination of your choice.
How to get there:
Pilotage
INSTRUCTOR NOTE: The customer should have a navigation chart opened and correctly oriented to help identify landmarks and checkpoints.
Possible deviations:
None
Possible malfunctions:
None
Purpose/pressures (real or simulated):
This is your first flight with another instructor to demonstrate that you are progressing through the course at the desired level of learning
INSTRUCTOR NOTE: People often experience stress in moments of perceived evaluation and react to that stress in different ways. Help the customer feel at ease. Explain that if you may be writing during the flight and it doesn't necessarily mean anything good or bad; these are simply notes for you to refer to later.
Risks (real or simulated):
Problems that can occur while flying slowly near the ground, appropriately correcting for the wind, traffic, hazards and communication in the traffic pattern, and the natural feelings that arise with having your performance evaluated
INSTRUCTOR NOTE: Think back to your first evaluation and remember how you felt. Allow the customer to demonstrate as much as possible without your assistance, assisting only as necessary or in the interest of safety. Ideally, the customer should have the flight controls at all times and transfer them to the instructor only for the actual landing.

Improving your skills:
Preflight inspection
Single-pilot resource management (SRM)
Stall/spin awareness
Checklist usage
Operation of systems
Radio communications
Positive exchange of flight controls
Crosswind taxi
Normal/crosswind takeoff and climb
Use of trim
Collision avoidance
Turn coordination
Maneuvering during slow flight
Stall
Crabbing
Sideslip
Normal/crosswind approach and landing
After landing, parking and securing

Appendix A

PHASE 3, SCENARIO 1: Takeoffs and Landings

Objective:
Build skill in performing takeoffs, landings and traffic pattern operations
INSTRUCTOR NOTE: Emphasize that "a good landing starts with a good approach" Being disciplined with altitudes, power settings and configurations will help to make the approach more stabilized.
Where to go:
An airport within 30 minutes flight time that is free from obstructions and dense traffic
INSTRUCTOR NOTE: An airport with a larger, wider runway and less traffic is ideal.
How to get there:
Pilotage
Possible deviations:
Upon arrival at the airport, the winds are reporting stronger than they were forecasted
INSTRUCTOR NOTE: Ask the customer what they would do? What is the crosswind limitation for the airplane? For the customer? Would you divert to another airport? If so, which one? If not, what would you do differently?
Possible malfunctions:
None
Purpose/pressures (real or simulated):
You are to fly to a neighboring airport to sign time-sensitive business documents that will expire tonight. The winds are 10 knots gusting to 15 knots 30° from the runway centerline.
INSTRUCTOR NOTE: Assist the customer in calculating the headwind and crosswind components. How do the winds compare to the airplane limitations and personal minimums of the customer? What would you do differently or devote more attention to in these conditions? How would you compensate for gusty winds? On takeoff, would you use flaps? How would you manipulate the flight controls to land with the longitudinal axis of the airplane parallel to the runway? What about wind correction during the flare and after touchdown? Wind correction on takeoff?
Risks (real or simulated):
Problems that can occur while flying slowly near the ground, traffic, hazards, and communication, learning how to land, failing to apply appropriate wind corrections, gusting wind conditions, flaring too high or low, failure to make the prompt decision to reject an attempted landing and go around, failure to maintain a safe speed and/or retract flaps to the takeoff setting when going around
INSTRUCTOR NOTE: Be sure that the customer feels that the decision to reject a botched approach or landing attempt and go around for another attempt is to be congratulated, not to be thought of as a failed attempt. Demonstrate the proper roundout height to the customer first so he or she can acquire the appropriate sight picture. Encourage the customer and provide helpful tips. Communicate the fact that landing can be a challenging skill to master and, like any other physical skill, takes practice and study to form.

New this scenario:
Situational awareness
- *Guide the customer to recognize situations that may require attention or enhance risk.*
  - *Such as being too high and too slow during the landing flare*

Weight and balance
- *Assist the customer, as needed, to calculate weight and balance. Discuss the CG envelope and how they can add, remove, or shift weight to get the airplane within limits.*

Performance charts
- *Assist the customer, as needed, in calculating appropriate performance numbers and discuss variables that might affect performance.*

Traffic patterns
- *Review traffic pattern altitudes and procedures before the flight for the airport(s) of intended landing.*
- *Reference a current chart supplement and navigation chart*

Go-around/rejected landings
- *Review go-around procedures before the flight by using the pilot's information manual (PIM)*
  - *Go to the book or online document and point out that the go-around is listed as a 'Balked Landing' and can be found in the Normal Procedures section.*
  - *Emphasize that going around for a better try is normal, not a sign of a failed attempt.*

- *Emphasize that when the safety of the approach or landing is in doubt, the customer is expected to go around.*

Improving your skills:
Preflight inspection
Single-pilot resource management (SRM)
Risk management
Checklist usage
Radio communications
Collision avoidance
Normal/crosswind takeoff and climbs
Crabbing
Sideslip
Normal/crosswind approach and landings
After landing, parking and securing

Appendix A

PHASE 3, SCENARIO 2: Crosswind Takeoffs and Landings

Objective:
Practice your wind correction procedures for crosswind takeoffs and landings
INSTRUCTOR NOTE: Emphasize the importance of maintaining wind correction from the beginning of the takeoff roll, through lift-off and during the climb; as well as during the flare, touchdown and ground roll for landing.
Where to go:
An airport within 30 minutes flight time that has a crosswind runway available
INSTRUCTOR NOTE: An airport with a larger, wider runway, less traffic and an existing crosswind is ideal. Note the actual runway width to the customer (50 feet? 100 feet? 150 feet?) and compare it to a 60-foot wide runway if it is wider. Discuss that, if you are using the wider runway, you will be simulating operations at a narrow runway by allowing 30 feet to each side of the centerline as the usable area.
How to get there:
Pilotage
Possible deviations:
During your weather briefing the briefer tells you there is an AIRMET "Tango" valid for your route of flight.
INSTRUCTOR NOTE: Discuss what an AIRMET is and what the descriptor "Tango" means. If available, look up current turbulence reports and forecasts for real-time examples for discussion at http://adds.aviationweather.noaa.gov/turbulence. How can you tell the affected area, altitude, and intensity at which the turbulence is occurring? What risk, if any, does turbulence present and how would you handle the situation in flight? What airspeed would you fly at? Would you change your route or altitude? How would that affect your fuel consumption? Is the risk presented by turbulence enough to delay the flight?
Possible malfunctions:
None
Purpose/pressures (real or simulated):
You have plans to fly and meet your best friend from high school that is visiting a neighboring town for one night. You haven't seen your close friend in years; he plans on leaving early tomorrow morning at 6 am. Winds at the associated airport are 12 knots and 60° from the runway centerline, and the runway is 60 feet wide.
INSTRUCTOR NOTE: Create the aura that there is an expectation by outside parties for the customer to fly in and visit the friend. Not going would create disappointment. What are the risk factors present? Is the risk worth the flight? Would waiting until a later time allow mid-day turbulence to subside? If the pilot delays the trip until late afternoon, what if it gets dark?
Risks (real or simulated):
Problems that can occur while flying slowly near the ground, appropriately correcting for the wind, traffic hazards and communication in the airport traffic pattern, stronger crosswind conditions combined with entry-level pilot skills and a narrow runway
INSTRUCTOR NOTE: Allow the customer to identify any risk and manage the risk by going around as necessary. It may take the customer more time to realize that the attempt is botched and make the decision to go around. Be patient, but do not compromise safety. Instruct the customer to go around as needed. Emphasize the importance of controlling wind drift at all times, especially when operating on a narrow runway.

Improving your skills:
Preflight inspection
Weight and balance
- *Have the customer prepare a weight-and-balance calculation; answer questions and assist as necessary.*

Performance charts
- *Have the customer calculate the takeoff and landing distances for the airport(s) of intended use.*

Single-pilot resource management (SRM)
Risk management
Checklist usage
Radio communications
Collision avoidance
Normal/crosswind takeoff and climbs
Traffic patterns
- *Emphasize that being at the proper altitude, airspeed and configuration for all legs will help to make a more stabilized approach to landing.*

Forward slip

- *Ask the customer to identify some situations in which he or she would use a forward slip.*

Crabbing
Sideslip
Normal/crosswind approach and landings
Go-around/rejected landing

- *Review the proper go-around procedures.*
- *Ask the customer to identify some situations which would require a go-around.*

After landing, parking and securing

Appendix A

PHASE 3, SCENARIO 3: Emergency Operations and Landing Practice

Objective:
Improve your wind correction techniques for crosswind takeoffs and landings, and learn techniques for coping with systems and equipment malfunctions, and engine failures both in cruise and immediately after takeoff
INSTRUCTOR NOTE: Be sure that the customer has a thorough understanding of emergency procedures, uses a checklist to verify all procedures and has the procedure for 'Engine Failure During Flight' memorized.
Where to go:
A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Pilotage
Possible deviations:
The airport you plan to practice takeoffs and landings at has a yellow "X" placed at each end of the runway
INSTRUCTOR NOTE: Ask how the customer would know about runway closures and similar items that may affect the ability to navigate to and/or land at the destination. What considerations would the customer have if they arrived at the destination and were unable to land? How much fuel does the airplane carry and use per hour? What would be the next destination? How would you find information quickly and in the air? Can you do things like tab the chart supplement for easy reference? Is it a good idea to look at possible alternate airports for every flight?
Possible malfunctions:
Flap-motor failure
INSTRUCTOR NOTE: How would you know that the flap motor isn't working? What would you do if you put the flaps down and they didn't move? Would recycling the lever help? Is there a circuit breaker? What is the airspeed to land without flaps and where can you find it? Why is the airspeed higher?
Purpose/pressures (real or simulated):
You have plans to meet a business partner for lunch for a really important meeting at a neighboring airport that will make or break a deal. The pilot that just flew the airplane said that the flaps would not go to 40° and would only extend partially. The pilot set the flaps again to 0° and then back to 40°. The flaps moved to the correct setting after doing this. The pilot experienced the flap setting error twice.
INSTRUCTOR NOTE: The customer is put in a common real-life position here. The error seems to be corrected but has presented itself as a known, likely malfunction. Is the risk worth the flight? Can you plan for a possible malfunction? What happens if the flaps get stuck partially or one further down than the other?
Risks (real or simulated):
Problems that can occur while flying slowly near the ground, appropriately correcting for the wind, traffic, hazards, and communication in the airport traffic pattern, undependable flap-motor, simulating engine failure at high pitch angles with low airspeed
INSTRUCTOR NOTE: The customer is experiencing the emergency procedures for the first time, and it is important that these procedures are thoroughly discussed and understood on the ground before attempting in the airplane. The customer needs to be able to meet the 'Explain' level of learner-centered grading for the procedures on the ground before attempting in flight. 'Chair flying' the procedures on the ground may help to avoid unnecessary stress and risk in flight.

Note: Before practicing the simulated engine failures, have the customer establish a power-off glide at the best glide speed and memorize the visual glide attitude. Next, simulate engine failures during climbs at V_X and V_Y.

New this scenario:
System and equipment malfunctions
- *The customer should have easy access to checklist to assess the situation and mitigate risk as needed*
- *Any system and equipment malfunctions to be simulated need to be discussed prior*

Simulated engine failure *(at altitude)*
- *Have the customer use the acronym AFFFMM as a memory aid, if needed*
  - *Airspeed – BEST GLIDE SPEED*
  - *Fuel*
    - *Shutoff valve - PUSH IN*
    - *Selector - BOTH or ON*
    - *Pump – ON (if installed)*

  - *Mixture - FULL RICH*
  - *Magnetos - BOTH*
- *Emphasize the fact that altitude can be gained by pitching to attain best glide speed*
  - *Bleed off airspeed and gain altitude by pitching up for best glide speed.*
  - *Approximately 5 to 10 knots before best glide speed, have the customer set the attitude for best glide and trim as necessary to help maintain that airspeed.*
- *Simultaneously, the customer should be looking for a possible emergency landing site*
  - *Remind them that the spot may be behind them and to consider things like wind, terrain and any hazards such as power lines.*

Simulated engine failure in a V_Y climb attitude *(at least 3,000 feet AGL)*

- *Use the memory aid of "Push to Set and Check" to help the customer. The actions are:*
  - *1) "Push to set" --establish the glide attitude by pushing on the control wheel.*
  - *2) "And Check"--verify that the airspeed is moving towards best glide speed.*
- *As soon as the glide attitude is established, start counting the number of seconds it takes for the airspeed to stabilize at the best glide speed, even though the glide attitude has been established.*
  - *The time it takes to establish best glide speed may be as many as 3 to 8 seconds and depends on the airplane, the spread between the current airspeed and best glide, and pilot reaction time.*

Simulated engine failure in a V_X climb attitude *(at least 3,000 feet AGL)*

- *Any delay in recognizing the engine failure when climbing at V_X may result in a stall.*
- *These stalls should also be practiced in shallow climbing turns.*

Note: 'Simulated engine failures in a climb' may be followed by a gliding 180-degree turn to demonstrate the altitude loss in a simulated engine failure after takeoff

- *Check the altitude lost from the moment power is reduced until the 180-degree turn is finished. Note, too, that this is an absolute best case scenario--an actual engine failure in the traffic pattern might require as much as twice the altitude lost during the simulation at altitude.*

Improving your skills:

Preflight inspection
Weight and balance
Performance charts
Single-pilot resource management (SRM)
Risk management
Checklist usage
Radio communications
Collision avoidance
Normal/crosswind takeoff and climb
Maneuvering during slow flight
Stall
Traffic pattern
Normal/crosswind approach and landing
Go-around/rejected landing
After landing, parking and securing

Appendix A

PHASE 4, SCENARIO 1: Using Your Flight Display / Instruments to Control the Airplane

Objective:
Build the skills to handle situations such as lowering visibility or pilot disorientation and use GPS as an aid for situational awareness *(if installed)*, practice ground reference maneuvers and safely handling system and equipment malfunctions
Where to go:
A point within 30 minutes flight time that is in suitable airspace for ground reference maneuvers and an airport suitable to practice traffic pattern operations, communications and takeoffs and landings
How to get there:
Pilotage, GPS
Possible deviations:
None
Possible malfunctions:
Carburetor icing, flight display/instrument failure, radio failure, alternator failure
INSTRUCTOR NOTE: Be sure that the customer is familiar with the actions to take for any of the above malfunctions while on the ground before attempting to simulate the malfunction in the air and that they know the location of the appropriate checklist within the pilot's information manual (PIM).

- *If applicable, ask the customer what carburetor icing is, possible situations when it can form, warning signs and recovery procedures.*
- *If simulating a flight display or instrument failure, dim the brightness of the PFD or MFD or cover the failed instrument.*
- *If simulating an alternator failure, ask what is affected? Will the engine quit? Will the electrical equipment continue to work? If so, for how long? Would you continue to your destination? How can you avoid draining the battery before arriving at the nearest airport?*

Purpose/pressures (real or simulated):
You are to pick up a temperature sensitive vaccine that is critical to deliver within two hours of pick-up. The weather is marginal VFR and the previous pilot using the airplane noted that the radio quality was poor at best. The ceiling is at 2,000 feet above ground level.
INSTRUCTOR NOTE: Ask the customer what risk the purpose and pressures of the flight present. Is a ceiling of 2,000 feet considered VFR? What is the required clearance over any obstacles and the ground? Does the poor radio quality affect the flight? If so, how?
Risks (real or simulated):
Encountering marginal weather with decreasing visibility, pilot disorientation, failure to communicate with ATC, flying near the ground
INSTRUCTOR NOTE: How can a pilot mitigate these risks? When in the air, what actions can a pilot take to prevent further flight into marginal weather? What do you do if you are disoriented? Can anyone help you? If you need to descend in order to stay out of the clouds and are "scud running", how do you know if you are in danger of hitting any obstacles or rising terrain?

New this scenario:
Controlled flight into terrain awareness

- *Be sure to discuss maximum elevation figures (MEF), shown in quadrangles on sectional and/or terminal area charts, and how much clearance flying at that altitude would give you from the highest obstacle.*
- *Share all the tips and tools you have to figure your height above terrain and/or obstacles.*
    - *Use 'spot elevation' points and contour levels from the sectional, the field elevation of the airport from the chart supplement, and the height of the obstructions on the sectional*
    - *Have the customer get used to subtracting the terrain or obstacle height from the current altitude to figure the actual clearance available*

Straight-and-level flight (IR)
Constant airspeed climbs and descents (IR)
Turns to a heading (IR)
180° turn (IR)

- *Simulate flying below the bases of the cloud and inadvertently entering IMC. Ask the customer: There is clear air just below and behind you. What should you do?*

Emergency communications and ATC resources

- *Where does the customer look to find a reachable frequency with radar for assistance? Where in the chart supplement? Where on the sectional?*

Failed radio communications and ATC light signals

- *The customer should be encouraged to troubleshoot the problem first before concluding that the radio has fully failed.*
    - *If the failure was simply the volume knob being turned down or a popped circuit breaker and the customer identifies it then the task is complete.*
    - *If the customer fails to recognize the solution, then allow the scenario to turn into a complete radio failure situation and continue as desired.*
- *If ATC light gun signals are on the customer's kneeboard, they should utilize that resource.*

GPS direct-to/nearest airport functions (*if installed)*

- *Have the customer operate the GPS while verbally guiding them.*

Improving your skills:

Preflight inspection
Weight and balance
Performance charts
Checklist usage
Single-pilot resource management (SRM)
Positive exchange of flight controls
Radio communications
Crosswind taxi
Collision avoidance
Normal/crosswind takeoff and climbs
Use of trim
System and equipment malfunctions
Rectangular course
Turns around a point
S-turns
Traffic patterns
Normal/crosswind approach and landings
After landing, parking and securing

Appendix A

PHASE 4, SCENARIO 2: Handling the Unexpected

Objective:
Gain proficiency in handling unexpected and emergency situations
Where to go:
A towered or non-towered (whichever you are least familiar with) airport within 30 minutes flight time
How to get there:
Pilotage, GPS
Possible deviations:
The visibility along your route has lowered to 4 statute miles. You are scheduled to land at your home airport 15 minutes prior to sunset.
INSTRUCTOR NOTE: Quiz the customer if it is legal to continue. What about personal minimums? If they divert to another airport would they get there before sunset? Is it legal for a student pilot to fly after sunset? After evening civil twilight? If the customer is seeking sport pilot certification, would they be able to fly after sunset? What about after evening civil twilight? What equipment is needed to fly after sunset (FAR 91.209)?
Possible malfunctions:
Engine failure, radio failure, position lights have been noted as 'inop'
INSTRUCTOR NOTE: Quiz the customer on emergency procedures for engine failure during takeoff roll and during flight. How would you know to abort the takeoff roll in the case of an engine failure? If the position lights are simulated as ' inop', could the customer legally fly? Are there any circumstances in which they could fly after sunset without position lights (FAR 91.3)?
Purpose/pressures (real or simulated):
You are to pick your mother up at a nearby airport. You've encountered a headwind on the way there and are running behind schedule. Your mother seems to be impatient and has already had numerous travel delays thus far; you were hoping to check the weather. If you leave now you will get back 15 minutes before sunset.
INSTRUCTOR NOTE: Would the failure to check weather information for the flight back bring a potential problem? Are the pressures enough to influence your decision making and attention to detail?
Risks (real or simulated):
Problems that can occur while encountering unexpected situations, improper pilot response to emergency situations, potential for runway incursions at an unfamiliar airport, controlled flight into terrain, flying near sunset without night proficiency
INSTRUCTOR NOTE: How can the customer mitigate any of these risks?

New this scenario:
Wind shear awareness and recovery procedures
- *What is the definition of wind shear? What are the indications of wind shear? What conditions would cause wind shear to be present? If you experience wind shear, what do you do?*

Wake turbulence avoidance
- *What is wake turbulence? What would you do if you were taking off behind a large airplane? How about landing behind a large airplane?*

Emergency approach and landing (simulated)
- *Simulate the engine failure at an altitude that gives the customer time to perform all necessary procedures. Continue the emergency approach to landing as low as you can, safely and legally, to see if the customer would have made it to the landing site chosen.*

Engine failure during takeoff roll (simulated)
- *What do you look at during takeoff to ensure the engine is running properly? After applying takeoff power you look at the engine gauges and see abnormally low oil pressure paired with high oil temperature; what are you going to do? How do you abort the takeoff? Is there any communication required? What do you do after aborting the takeoff? Where would you taxi to? Who would you call on the radio (if required or appropriate)?*

Improving your skills:
Preflight inspection
Weight and balance
Performance charts
Checklist usage

Single-pilot resource management (SRM)
Task management
Risk management
Controlled flight into terrain awareness
Positive exchange of flight controls
Crosswind taxi
Normal/crosswind takeoff and climb
Use of trim
Collision avoidance
System and equipment malfunctions
Emergency communications and ATC resources
Failed radio communications and ATC light signals
Maneuvering during slow flight
Power-off stall (landing configuration)
Power-on stall (takeoff /climb configuration)
Spin awareness and recovery procedures
Traffic patterns
Normal/crosswind approach and landing
Go-around/rejected landing
After landing, parking and securing

Appendix A

PHASE 4, SCENARIO 3: Getting Ready for Solo Flight

Objective:
Recover from unusual flight attitudes and polish your skills for the progress check before your first solo flight
*INSTRUCTOR NOTE: Any deficiencies should be corrected here. The goal is that upon completion of this scenario, the customer is ready for the *Progress Check* and able manage all aspects of completing a flight. The Pre-Solo written test should be completed and corrected to 100%.*
Where to go:
A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Pilotage, GPS
Possible deviations:
You encounter haze and lowering cloud layers, there is light mist on the windshield
INSTRUCTOR NOTE: What would the customer do if they experienced the items above? Is visible moisture a risk? Why or why not?
Possible malfunctions:
Engine failure, carburetor icing, flight display/instrument failure, radio failure, alternator failure
INSTRUCTOR NOTE: Choose any, all or none of the malfunctions above. While taxiing out, simulate a low voltage light illuminated. What does that mean? What is the corrective action?
Purpose/pressures (real or simulated):
The weather at your destination is reporting marginal VFR; you plan to fly yourself to an important regional airline interview that you've been trying to get for months. You have the option of driving, but want to impress the interviewers by flying in.
INSTRUCTOR NOTE: What is marginal VFR? Is a student pilot allowed to fly in marginal VFR? Is a sport pilot allowed? Is a private pilot? Have the customer identify at least three risks of flying in marginal weather.
Risks (real or simulated):
Marginal weather; flying slowly near the ground; failure to appropriately correct for the wind, traffic and collision hazards; the potential for runway incursions; communication in the airport traffic pattern; pilot disorientation
INSTRUCTOR NOTE: Have the customer identify at least three risks of flying in marginal weather. Quiz the customer on stall speed (flaps down and flaps up) and wind correction procedures. Where is the wind sock? How would an airport diagram help to mitigate collision avoidance? What should you do if you don't understand a communication from the tower (or communications from an airplane that is self-reporting if you are operating at an airport without a control tower). What would prefacing your communications with the words 'student pilot' do for you?

New this scenario:
Recovery from unusual flight attitudes (IR)

- *Have the customer place themselves in an unusual attitude.*
    - *Start out straight and level, have the customer give what feels to be a 15- or 30-degree turn, hold the turn for a short period of time, then ask the customer to bring the airplane back to what feels like straight and level. Repeat the process as necessary. When the airplane is in an unusual attitude, tell him or her to look up and recover.*
    - *Another option is to distract the customer by having them search for something in his or her flight bag, or to retrieve a checklist or pencil that has slid under the seat.*

Improving your skills:
Preflight inspection
Weight and balance
Performance charts
Checklist usage
Single-pilot resource management (SRM)
Positive exchange of flight controls
Wind shear awareness and recovery procedures
Wake turbulence avoidance procedures
Normal/crosswind takeoff and climb

Collision avoidance
Maneuvering during slow flight (IR)
Power-off stalls (landing configuration)
Power-on stalls (takeoff/climb configuration)
Spin awareness and recovery procedures
Straight-and-level flight (IR)
Climb, turns, descents (IR)
180° turn (IR)
GPS direct-to/nearest airport function (*if installed)* (IR)
Steep turns
System and equipment malfunctions
Emergency approach and landing (simulated)
Ground reference maneuver
Traffic patterns
Go-around/rejected landing
Forward slip to a landing
Normal/crosswind approach and landing
After landing, parking and securing

Appendix A

PHASE 5, SCENARIO 1: **Progress Check**

Note: If your customer is enrolled in a Part 141 Private Pilot course, they must hold either a recreational pilot certificate, sport pilot certificate, or a student pilot certificate before they may enroll in the Phase 5 solo phase.

Objective:
Demonstrate to a designated instructor that you can safely fly the airplane solo
*INSTRUCTOR NOTE: The customer should be able to communicate all necessary information learned at the appropriate level listed in the *Progress Check* ground and flight grading evaluation tool.*
Where to go:
Suitable airspace free of hazards to demonstrate the appropriate maneuvers; the airport chosen by your instructor for your solo flight
INSTRUCTOR NOTE: The landings should be conducted at the airport at which you intend to solo the customer.
How to get there:
Pilotage, GPS
INSTRUCTOR NOTE: Customer's choice.
Possible deviations:
None
Possible malfunctions:
Engine failure, carburetor icing, flight display/instrument failure, radio failure, alternator failure
INSTRUCTOR NOTE: Instructor's choice to simulate some or all of the above items. The customer should be able to control each malfunction safely and mitigate risks.
Purpose/pressures (real or simulated):
You are to demonstrate the skills listed below to the designated instructor to confirm that you are safe to operate solo
INSTRUCTOR NOTE: The customer should complete all tasks without assistance. Intervene as necessary to maintain safe operations.
Risks (real or simulated):
The natural feelings that may arise from being evaluated or flying with an unfamiliar instructor and being responsible for all aspects of the flight
INSTRUCTOR NOTE: Be sure to inform the customer that you will be taking notes throughout the flight and that they notes don't mean anything bad or good, they are simply reminders for you.

Testing your knowledge:
Regulations applicable to student pilot (Part 61, Part 91)
Appropriate logbook and certificate endorsements
Student pilot limitations
Safety procedures and practices
Certificates and documents
Systems
Airworthiness requirements
Weight and balance
Performance and limitations
Wake turbulence avoidance
Wind shear awareness and recovery procedures

Testing your skills:
Preflight inspection
Single-pilot resource management (SRM)
Task management
Risk management
Situational awareness
Weight and balance
Performance charts
Radio communications
Checklist usage

Crosswind taxi
Normal/crosswind takeoff and climb
Use of trim
Collision avoidance
Maneuvering during slow flight
Stall
Spin awareness and recovery procedures
Basic instrument maneuvers (IR)
GPS direct to/nearest airport functions (IR) *(if installed)*
180° turn (IR)
Emergency operations
Ground reference maneuver
Traffic patterns
Go-around/rejected landing
Normal/crosswind approach and landing
After landing, parking and securing

Appendix A

PHASE 5, SCENARIO 2: Your First Solo Flight

Objective:
To complete three consistently safe landings with your instructor and then complete three landings (to a full stop) as pilot in command during your first solo flight in the traffic pattern
INSTRUCTOR NOTE: Once the customer proves to be consistently safe for solo operations, he or she will receive the appropriate solo endorsements. At your discretion, more landings can be accomplished as necessary to prove consistency.
Where to go:
The airport chosen by your instructor for your solo flight
INSTRUCTOR NOTE: The customer is familiar with the airport being used to solo.
How to get there:
Pilotage, GPS
INSTRUCTOR NOTE: If using the home base airport for the first solo, there is no need to leave the local traffic pattern.
Possible deviations:
None
Possible malfunctions:
None
Purpose/pressures (real or simulated):
You have family members in from out of town to watch your first solo flight. The wind is 12 knots at a 20° angle to the runway.
INSTRUCTOR NOTE: Emphasize that safety is first and foremost, and that the first solo flight can always be rescheduled just like any other flight. Ask the customer: Is the wind acceptable for a first solo flight? Why or why not?
Risks (real or simulated):
Problems that can occur while flying slowly near the ground; appropriately correcting for the wind, traffic; runway incursions; communication in the airport traffic pattern; and the natural feelings that may arise during your first solo flight
INSTRUCTOR NOTE: The customer will recognize risks and mitigate them as necessary without assistance.

New this flight
Solo takeoffs and landings (to a full stop)

- *Have the customer advise the control tower, if applicable, that this is a 'supervised solo'.*
- *If possible, have a handheld radio to monitor the customer's communications.*

Improving your skills:
Appropriate logbook and certificate endorsements
Preflight inspection
Single-pilot resource management (SRM)
Weight and balance
Performance charts
Normal takeoff and climbs
Collision avoidance
Traffic patterns
Normal approach and landings (to a full-stop)
Go-around/rejected landing (if necessary)
After landing, parking and securing

PHASE 5, SCENARIO 3: Your Second Solo Flight

Objective:
This second supervised solo flight will increase confidence and ability in the traffic pattern operation. The scenario begins with additional dual instruction including departure procedures to the local practice area and traffic pattern entry. Complete three solo landings to a full stop.
INSTRUCTOR NOTE: Designate a practice area for the customer to take you to and from safely, without assistance.
Where to go:
Practice area first, then the airport chosen by your instructor for your second solo flight in the traffic pattern
INSTRUCTOR NOTE: Upon returning from the practice area, the customer enters the traffic pattern and completes consistently safe landings before the second solo in the traffic pattern.
How to get there:
Pilotage, GPS
Possible deviations:
None
Possible malfunctions:
None
Purpose/pressures (real or simulated):
You are conducting your second solo flight. The wind is 12 knots at a 40° angle to the runway
INSTRUCTOR NOTE: Is the wind within the personal minimums of the customer? What are the customer's personal minimums for solo operations?
Risks (real or simulated):
Problems that can occur while flying slowly near the ground; appropriately correcting for the wind, traffic; runway incursions; communication in the airport traffic pattern; and the natural feelings that may arise during solo flight
INSTRUCTOR NOTE: The customer will recognize risks and mitigate them as necessary without assistance.

Improving your skills:
Appropriate logbook certificate endorsements
Preflight inspection
Single-pilot resource management (SRM)
Weight and balance
Performance charts
Normal takeoff and climbs
Collision avoidance
Traffic patterns
Normal approach and landings (to a full-stop)
Go-around/rejected landing (if necessary)
Solo takeoffs and landings (to a full stop)
After landing, parking and securing

Appendix A

PHASE 6, SCENARIO 1: Solo Flight Beyond the Pattern

Objective:
Complete your first solo flight outside the local traffic pattern while gaining proficiency and confidence in solo operations
Where to go:
An area or airport within 30 minutes flight time that is free of hazards to accomplish the first solo flight outside the traffic pattern
INSTRUCTOR NOTE: The customer is to remain within 25 nm of the home base airport.
How to get there:
Pilotage, GPS
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You are scheduled to take a picture of a college baseball game. The picture will appear in a local newspaper and is due by 9 pm tonight
INSTRUCTOR NOTE: Ask the customer: Can you fly over a college stadium? What about major sporting events like a Major League Baseball (MLB) or National Football League (NFL) game (in the United States)? How would you know? What is the width and height of the TFR for a sporting event (FAR 91.145)?
Risks (real or simulated):
Appropriately correcting for the wind, entering and exiting the airport traffic pattern during solo flight, spotting traffic and hazards while performing maneuvers solo, distractions while flying solo, and the excitement and natural feelings that come with operating solo for the first time beyond the traffic pattern
INSTRUCTOR NOTE: The customer is responsible for recognizing and mitigating all risks.

Improving your skills:
Appropriate logbook and certificate endorsements
Single-pilot resource management (SRM)
S-turns
Turns around a point
Steep turns
Traffic pattern

PHASE 6, SCENARIO 2: Using Short- or Soft-Field Techniques

Objective:
Learn short- and soft-field takeoff and landing techniques
INSTRUCTOR NOTE: Be sure that the customer is thoroughly familiar with the techniques and purposes and when to use them.
Where to go:
An airport within 30 minutes flight time that is suitable for learning advanced takeoff and landing techniques
How to get there:
Pilotage, GPS
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You are a volunteer pilot scheduled to take a refrigerated vaccine to a sick child that lives in a remote village. The airstrip is dirt/grass and is surrounded by trees.
INSTRUCTOR NOTE: Point out an airport with an unpaved runway on the sectional or terminal area chart. Look up the dimensions of the runway and notes in the chart supplement. What would happen if it rained? How do you check conditions at an unpaved airport? If it is a private field, can you land there? What procedures do you use when taking off from a short and soft runway surrounded by trees?
Risks (real or simulated):
Problems that can occur while flying slowly near the ground; appropriately correcting for the wind, landing in a confined area
INSTRUCTOR NOTE: The customer should identify and mitigate all risks as well as make all decisions related to the safety of flight.

New this scenario:
Short-field takeoff and climb
Soft-field takeoff
Short-field approach and landing
Soft-field landing approach and landing

Improving your skills:
Single-pilot resource management (SRM)
Risk management
Aeronautical decision making

Appendix A

PHASE 6, SCENARIO 3: Using Electronic Navigation / Instrument Flight

Objective:
Advance your skills using electronic navigation and flying by instrument reference only, and practice lost procedures
INSTRUCTOR NOTE: Instructor assistance should be minimal as necessary, allowing the customer work through the lost procedures. The customer should increase his or her proficiency and ability to operate by reference to instruments only.
Where to go:
A point within 30 minutes flight time that is suitable airspace that is free of dense traffic
How to get there:
Pilotage, GPS
Planned deviations:
Lowering visibility along the route decreasing to 3 miles
INSTRUCTOR NOTE: How would the customer know that the visibility is decreasing to 3 miles while en route? What are some frequencies that can be used to update weather information while en route?
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You are a pilot for a charitable organization and have encountered lowering visibility while en route to deliver parts for a village well in a remote location. The village is without safe drinking water until the parts you are carrying make it to the destination. The well has been out of operation for four days.
INSTRUCTOR NOTE: How much weight can the customer carry in the airplane when he or she is flying solo? Ask the customer: Would you keep going into lowering visibility? Can you fly in 3 miles of visibility? Can you fly special VFR? Why or why not?
Risks (real or simulated):
Problems that can occur when encountering marginal weather, pilot disorientation, pressures to continue a flight in marginal weather
INSTRUCTOR NOTE: Ask the customer: What should you do if you get disoriented? What if the airplane feels like it's turning but the instruments say it's straight and level?

New this scenario:
Stall with a bank (not to exceed 20° of bank)
- *Ask the customer: What is different about doing a stall with a bank? If the airplane is in a skidding or slipping turn, what may happen and why? What are the procedures to recover from a spin? Is our airplane approved for spins?*

Maneuvering during slow flight (IR)
- *Done with minimal, if any, instructor assistance.*

Lost procedures
- *Allow the customer to work through the lost procedures as much as possible, assisting only as necessary.*

Navigation systems/facilities, and radar services (IR)
- *Have the customer divert to a location of your choice using navigation systems on board the airplane.*
- *You can have the customer locate an appropriate frequency and simulate calling for radar vectors to the location of your choice.*

Improving your skills:
Single-pilot resource management (SRM)
Controlled flight into terrain awareness
Situational awareness
Roll control during high angles of attack
GPS direct-to/nearest airport function (IR)
Basic instrument maneuvers (IR)
Spin awareness and recovery procedures
Recovery from unusual attitudes (VR-IR)

PHASE 6, SCENARIO 4: Solo Practice

Objective:
Improve your confidence and skills for solo flight by performing ground reference maneuvers and steep turns in the local area.
Where to go:
A point within 25 nm that is in suitable airspace that is free from dense traffic and hazards
How to get there:
Pilotage, GPS
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You are a banner-tow pilot and have been assigned to fly over a major sporting event that starts in two hours. You are contracted to fly over the event with the advertising banner for 45 minutes.
INSTRUCTOR NOTE: Ask the customer: When is the latest time you can fly over the major sporting event? Do all open-air sporting events have a TFR? What happens to performance and attention to detail when one is rushed? How can you prevent that? Can a sport pilot fly for hire? How about a private pilot? What if it's for a charity event?
Risks (real or simulated):
Spotting traffic while performing solo maneuvers, communication in the airport traffic pattern, collision hazards while operating at low altitudes
INSTRUCTOR NOTE: Emphasize the importance of making position reports on the practice area frequency, if available, as well as scanning for traffic, reminding the customer that there is only one person making the scan when he or she is flying solo.

Improving your skills:
Appropriate logbook and certificate endorsements
Single-pilot resource management (SRM)
Rectangular course
Turns around a point
S-turns
Steep turns

Appendix A

PHASE 7, SCENARIO 1: Going Cross-Country

Objective:
Learn cross-country techniques while experiencing a flight to an unfamiliar destination outside of your local area
Where to go:
An airport the appropriate distance away (at least a straight line of 25 nm for sport pilot customers and 50 nm for private pilot customers) to accomplish your cross-country requirements; an airport with a control tower if your instructor chooses
INSTRUCTOR NOTE: Review the destination and routing with the customer. Does the customer have any questions? Ask the customer: How do you know what runway to use? How can you use the heading indicator as a tool to help figure out which runway you are to use?
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
INSTRUCTOR NOTE: Emphasize the importance of keeping an accurate flight log for proper dead reckoning procedures. If GPS is available, have the customer enter all waypoints along the route. Utilize VOR navigation, if available.
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
You have an important business meeting at a nearby airport today. Your boss has advised that if you don't attend this meeting you will lose your bonus. Your car is in the shop.
INSTRUCTOR NOTE: Ask the customer: What is the current weather at a nearby airport (instructor's choice)? Will you fly or rent a car?
Risks (real or simulated):
Being able to locate an unfamiliar airport. Problems that can occur while flying out of your local environment to unfamiliar airports in unfamiliar terrain; changing weather across your route, military operations areas (MOA), restricted areas, temporary flight restrictions (TFRs), notices to airmen (NOTAMs)
INSTRUCTOR NOTE: Challenge the customer to locate the unfamiliar airport first. If you are the first to locate it, allow him or her time to locate the airport. If needed, give the customer the location of the airport using clock position.

New this scenario:
Route selection
- *Discuss any airspace or terrain within the straight-line distance. Ask the customer: Can you go through it or will you have to go around it and why?*

Flight publications and currency *(chart supplement, sectional and/or terminal area charts, NOTAMs)*
- *Ensure all publications are current, the chart supplement is tabbed for easy location of the destination airport and any possible alternate airports, the sectional is clearly and appropriately marked, and all NOTAMs for the route are known.*

Obtaining a weather briefing
- *Ask the customer: What type of weather briefings did you get? When would an outlook briefing or an abbreviated briefing be appropriate? What are the FAA-approved sources for weather briefings?*

Cross-country flight planning and performance
- *Quiz the customer on their flight planning: What is the power setting we will use? How did you figure that out? What altitude are we flying at and why? When do we reach our top of climb? Top of descent? What are the takeoff and landing distances for all airports at which we will be operating? Are there any special operations at that airport, such as right-hand traffic patterns or active parachute jumping within the area?*

Weight and balance
- *Ask the customer: How much fuel are we going to use and why? What is the required fuel reserve?*

Emergency equipment and survival gear
- *Ask the customer: Is there any emergency equipment required for flight (are you flying over water)? What emergency equipment should we take?*

Cross-country navigation log

- *Be sure to have the customer complete the log accurately.*

Cockpit management

- *The customer should organize all needed materials and have them accessible within the cockpit.*

Power settings and mixture control

- *The customer should set the throttle to the appropriate RPM and lean the mixture for best economy or best power as directed*

Opening flight plans

- *Have the customer open the flight plan; assist as needed*

VFR flight following *(radar services)*

- *Obtain VFR flight following as appropriate*

Pilotage

- *Have the customer point out each checkpoint to you*

Dead reckoning

- *The customer should calculate groundspeed in the cockpit by using a flight computer*

Navigation systems *(installed in the airplane)*

- *Utilize installed navigation systems to assist in locating the destination*

Using the federal airway system *(as applicable)*

- *Use federal airways if available and appropriate for the route*

In-flight weather resources *(Flight Watch 122.0, ATIS, AWOS/ASOS, Unicom)*

- *Quiz the customer on in-flight weather resources*

Closing flight plans

- *Have the customer close the flight plan after landing safely*

Improving your skills:
Situational awareness
Task management
Aeronautical decision making

Appendix A

PHASE 7, SCENARIO 2: Polishing Your Cross-Country Skills

Objective:
Demonstrate the ability to handle unexpected situations that may arise during a cross-country flight.
Where to go:
An airport the appropriate distance away (at least a straight line of 25 nm for sport pilot customers and 50 nm for private pilot customers) to accomplish your cross-country requirements; an airport with a control tower if you haven't been to one yet
INSTRUCTOR NOTE: Review the destination and routing with the customer. Ask questions about refueling procedures for this flight. Do they know how to use a self-serve pump?
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
INSTRUCTOR NOTE: Re-emphasize the importance of keeping an accurate flight log for proper dead reckoning procedures. If GPS is available, have the customer enter all waypoints along the route. Utilize VOR navigation, if available.
Planned deviations:
Diversion to an alternate airport (to completion)
INSTRUCTOR NOTE: Guide the customer to make the decision to divert to an alternate airport. This can be caused by a malfunction or unexpected weather en route.
Planned malfunctions:
Engine failure, alternator failure, radio failure, carburetor icing, flight display/instrument failure, pilot disorientation
INSTRUCTOR NOTE: The customer will manage the malfunction as necessary utilizing the recommend checklist and mitigate risks.
Purpose/pressures (real or simulated):
Your beloved pet is critically ill and needs immediate medical attention. A series of torrential rains have left most of the rivers and streams in the local area near the flood stage making it difficult to drive. Your veterinarian is an avid pilot; the veterinarian clinic rests besides his home and private airstrip.
INSTRUCTOR NOTE: Ask the customer: Is it legal to carry an animal in the cockpit of an airplane? Does this present any risk? What questions would you ask the veterinarian about the airstrip?
Risks (real or simulated):
Problems that can occur while flying out of your local environment to unfamiliar airports in unfamiliar terrain; changing weather across your route, military operations areas (MOA), restricted areas, temporary flight restrictions (TFRs), notices to airmen (NOTAMs)
INSTRUCTOR NOTE: The customer is responsible for following all airspace rules, applicable NOTAMs, knowing and avoiding any TFRs as well as the altitudes and operation times of any MOAs along the route.

New this scenario:
Diversion to an alternate *(done to a completion at least once this phase)*

- *Customer is able to safely divert to an alternate destination using recommended procedures.*

Improving your skills:
Automation management
Risk management
Controlled flight into terrain awareness
Route selection
Flight publications and currency *(chart supplement, sectional and terminal area charts, NOTAMs)*
Obtaining a weather briefing
Cross-country flight planning and performance
Weight and balance
Emergency equipment and survival gear
Cross-country navigation log
Cockpit management
Power settings and mixture control
Opening flight plans
VFR flight following
Pilotage and dead reckoning
Navigation systems

Using the federal airway system
In-flight weather resources *(Flight Watch 122.0, ATIS, AWOS/ASOS, Unicom)*
Lost procedures
Emergency communications and ATC resources
System and equipment malfunctions
Closing flight plans

Appendix A

PHASE 7, SCENARIO 3: **PROGRESS CHECK***

Objective:
To demonstrate that you can safely act as pilot in command on a solo cross-country flight
INSTRUCTOR NOTE: The customer performs all procedures as though on a solo cross-country flight.
Where to go:
As assigned by the designated instructor (prior to the day of the flight)
INSTRUCTOR NOTE: The customer will present cross-country planning to the destination you provide.
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
INSTRUCTOR NOTE: The customer will use suitable navigation.
Planned deviations:
Diversion to an alternate (partial or to completion)
INSTRUCTOR NOTE: The customer can to divert to an alternate destination as needed to ensure he or she can divert successfully while flying solo. We recommend that you begin the diversion, and discontinue it when its successful outcome is no longer in doubt. A diversion to completion is recommended if the customer does not give you confidence that he or she can perform the diversion effectively and safely.
Planned malfunctions:
Engine failure, alternator failure, radio failure, carburetor icing, flight display/instrument failure, pilot disorientation
INSTRUCTOR NOTE: Any of the malfunctions above can be simulated, and the customer will manage and mitigate risk while following the recommended procedures
Purposes/pressures (real or simulated):
Any problems/scenarios that the check pilot presents you with; the perceived pressure and natural feelings that may arise with being evaluated
INSTRUCTOR NOTE: Instructor discretion.
Risks (real or simulated):
Problems that can occur while flying out of your local environment to unfamiliar airports in unfamiliar terrain; system and equipment malfunctions
INSTRUCTOR NOTE: The customer must demonstrate that he or she is ready for flying solo cross-country effectively and mitigate risks.

Testing your knowledge:
Review assigned cross-country flight planning
- *Information is current and correct*

Appropriate logbook and certificate endorsements
- *The customer knows endorsements required for solo cross-country operations*

FAA flight plans
- *The customer demonstrates the knowledge and ability to file and open an FAA flight plan*

Airspace
- *The customer demonstrates knowledge and safe navigation through required airspace*

Weather
- *The customer knows the current and forecast weather for the departure and destination airports, as well as the weather for the final arrival back to the home airport;*
- *Obtains weather from an FAA-approved source;*
- *And demonstrates knowledge of and is able to utilize in-flight weather resources.*

Lost procedures
- *Ensure that the customer is able to locate his or her position using navigation systems or radar assistance.*

System and equipment malfunctions
- *The customer can recognize and manage a system or equipment malfunction following the recommended procedures.*

Testing your skills:
Single-pilot resource management
Route selection

Flight publications and currency
Obtaining a weather briefing
Cross-country flight planning and performance
Weight and balance
Emergency equipment and survival gear
Cross-country navigation log
Cockpit management
Power settings and mixture control
Opening flight plans
VFR flight following
Pilotage and dead reckoning
Navigation systems
Diversion to an alternate
Lost procedures
In-flight weather resources
Emergency operations
Closing flight plans

Appendix A

PHASE 7, SCENARIO 4: Your First Solo Cross-Country

Objective:
Fly your first solo day VFR cross-country flight
INSTRUCTOR NOTE: Confirm the customer's planning and provide endorsements as required.
Where to go:
An airport that you have already flown to and is the appropriate distance away (at least a straight line of 25 nm for sport pilot customers and more than 50 nm for private pilot customers)
**Sport pilot applicants are to complete a solo cross-country of 75 nm total distance with a full-stop landing at a minimum of two points*
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
Complete the necessary pre-flight planning for your assigned route, navigate safely and efficiently to your destination and return to your home airport as close as possible to your ETA.
Risks (real or simulated):
Problems that can occur while flying out of your local environment to unfamiliar airports in unfamiliar terrain; changing weather across your route, military operations areas (MOA), restricted areas, temporary flight restrictions (TFRs), notice to airmen (NOTAMs)
INSTRUCTOR NOTE: Have the customer call you after he or she closes the FAA flight plan.

Improving your skills:
Appropriate logbook and certificate endorsements
Single-pilot resource management (SRM)
Route selection
Flight publications and currency
Obtaining a weather briefing
Cross-country flight planning and performance
Weight and balance
Cross-country navigation log
Cockpit management
Power settings and mixture control
Opening flight plans
VFR flight following
Pilotage and dead reckoning
Navigation systems
Using the federal airway system (as applicable)
In-flight weather resources
Closing flight plans

PHASE 8, SCENARIO 1: Flying at Night

Objective:
Learn the fundamentals of night operations
INSTRUCTOR NOTE: Emphasize the importance of preparation for night operations including knowing the operation of installed lights.
Where to go:
A suitable point within 30 minutes flight time free from obstructions
INSTRUCTOR NOTE: Point out the main landmark used at night and discuss why may be different than the landmarks used during the day. Have the customer identify the airport beacon when returning to the airport. How can you tell when a control tower closes?
How to get there:
Pilotage, GPS
INSTRUCTOR NOTE: Demonstrate the use of the dim feature on the GPS, if installed.
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
To experience flying and landing at night for the first time
INSTRUCTOR NOTE: Point out the joys of night flying including less traffic and smoother air.
Risks (real or simulated):
Problems that can occur while flying at night such as visual illusions and pilot disorientation, unfamiliarity with night operations and visual cues
INSTRUCTOR NOTE: Point out that instruments are referred to at night to confirm position.

New this scenario:
Night preparation and planning
- *Review the items needed for night flying*

Night preflight procedures and pilot equipment
- *The customer should have a flashlight with spare batteries*

Airport navigation and lighting
- *Point out the airport lighting, quizzing the customer as necessary*
- *Ask the customer how they would know if an airport beacon was out of order or if an airport didn't have a beacon*
- *Ask about airport lighting: Are runways required to have it? What about taxiways? How do you know about an airport's lighting on the field?*

Required aircraft equipment
- *Review the equipment required to operate at night*

Landing with and without a landing light
- *Demonstrate a night landing to the customer*

Six takeoffs and landings to a full stop
- *To count towards the requirement of 10 takeoff and landings to a full stop*

Improving your skills:
Single-pilot resource management
Controlled flight into terrain awareness
Emergency equipment and survival gear

Appendix A

PHASE 8, SCENARIO 2: Flying Cross-Country at Night

Objective:
Learn the skills necessary to fly cross country at night
Where to go:
An airport the appropriate distance away (at least a straight-line distance of 50 nm) to accomplish your cross-country requirements
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
Planned deviations:
None
Planned malfunctions:
Landing light failure, pilot disorientation
Purpose/pressures (real or simulated):
Your friend wants to get some pictures of the city from above at night for a project that is due the next day. There are few clouds at 1200 ft AGL, scattered clouds at 1600 ft AGL and a broken layer at 3,400 AGL. There is barely any moonlight.
INSTRUCTOR NOTE: You may choose to simulate inadvertent flight into IMC.
Risks (real or simulated):
Problems that can occur while flying cross country at night such as night illusions, pilot disorientation and accidental flight into a cloud on a moonless night

Improving your skills:
Single-pilot resource management
Controlled flight into terrain awareness
Route selection
Flight publications and currency
Obtaining a weather briefing
Cross-country flight planning and performance
Cross-country navigation log
Cockpit management
Power settings and mixture control
Opening flight plans
VFR flight following
Pilotage and dead reckoning
Navigation systems
Lost procedures
In-flight weather resources
Emergency communications and ATC resources
Emergency equipment and survival gear
Recovery from unusual attitudes
Four takeoff and landings to a full stop
Closing flight plans

PHASE 9, SCENARIO 1: Polishing Emergency Instrument Skills

Objective:
Practice the instrument skills necessary to recover safely from inadvertent flight into areas of marginal weather and reduced visibility, increase the efficiency of simulated short- and soft-field operations and practice decision-making skills for emergency operations.
INSTRUCTOR NOTE: This scenario is designed to allow the customer to recognize that he or she is in a marginal weather situation and utilize the resources available to effectively manage the situation.
Where to go:
A suitable point within 30 minutes flight time free of dense traffic
INSTRUCTOR NOTE: The scenario route/area should have sufficient airspace tolerance and traffic to allow the customer to make unconstrained alternative decisions and instrument reference maneuvers.
How to get there:
Pilotage, GPS
Planned deviations:
None or as necessary
INSTRUCTOR NOTE: Have the customer use a view-limiting device to simulate loss of ground references.
Planned malfunctions:
Pilot disorientation
INSTRUCTOR NOTE: Any malfunctions are optional. Simulate failure of the primary instrument references by by darkening the PFD or MFD or placarding certain instruments 'inop' so the customer will manually initiate the reversionary mode and/or utilize the standby instruments. If the customer engages the autopilot, allow them to use it to set up a successful diversion plan and then fail it so the customer can gain skill hand flying the airplane.
Purpose/pressures (real or simulated):
When you experience unexpected lowering visibility, you are 5 nm from your airport, which is reporting marginal VFR and is 20 nm from a neighboring airport reporting 6 miles visibility
INSTRUCTOR NOTE: The goal is for the customer to experience the circumstance of being close to the home airport reporting marginal VFR weather with a neighboring airport reporting VFR weather. The decision to divert may cause hours of inconvenience to the pilot and any plans pending upon the arrival of both the pilot and the airplane.
Risks (real or simulated):
Low ceilings and visibility, marginal VFR, recency of experience in short- and soft-field landings
INSTRUCTOR NOTE: The customer will evaluate the risks and choose alternative actions to successfully complete the flight.

Improving your skills:
Single-pilot resource management
Basic instrument maneuvers (IR)
180° turn (IR)
GPS orientation and tracking (IR) *(if equipped)*
VOR orientation and tracking (IR) *(if equipped)*
Recovery from unusual attitudes (IR)
Short-field takeoff and maximum performance climb
Short-field approach and landing
Soft-field takeoff and climb
Soft-field approach and landing
Emergency operations
Controlled flight into terrain awareness
Situational awareness
Automation management

Appendix A

PHASE 9, SCENARIO 2: Solo Cross-Country Practice

Objective:
To practice solo cross-country operations and aeronautical decision making
INSTRUCTOR NOTE: This scenario is designed to build the customer's confidence in cross-country flying. After all cross-country planning (route, weather, performance) is approved, a one-time endorsement will be put in the logbook.
Where to go:
An airport more than 50 nm straight-line distance from the airport of departure
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
To conduct a solo day VFR cross-country flight to an unfamiliar airport by completing the necessary preflight planning, navigating safely and efficiently to all your assigned points, and returning as close as possible to your ETA
Risks (real or simulated):
Problems that can occur while flying solo cross country to an unfamiliar airport

Improving your skills:
Appropriate logbook and certificate endorsements
- *Provide endorsements as necessary*

Route selection
- *Review customer's flight planning*

Flight publications and currency
- *Ensure the customer's chart supplement and navigation chart(s) are current and marked as appropriate*

Obtaining a weather briefing
Aeronautical decision making
Cross-country flight planning and performance
Cross-country navigation log
Task management
Cockpit management
Power settings and mixture control
Opening flight plan
VFR flight following
Pilotage and dead reckoning
Navigation aids and radar services
In-flight weather resources
Closing flight plan

PHASE 9, SCENARIO 3: Long Solo Cross-Country

Objective:
Complete the solo cross-country flight requirements for your private pilot certificate.
INSTRUCTOR NOTE: This scenario is designed to build the customer's confidence in cross-country flying. After all cross-country planning (route, weather, performance) is approved, a one-time endorsement will be put in the logbook
Where to go:
A cross-country flight of at least 100 nm total distance with one segment of more than 50 nm straight-line distance between takeoff and landing locations and landings at a minimum of three different airports. Part 61 customers must fly 150 nm total distance and the landings must be full-stop at each of the three different airports. If not previously accomplished, one airport should have an operating control tower where three takeoffs and landings can be made to a full stop with each landing involving flight in the traffic pattern.
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
To complete a full-stop landing at three different airports while navigating safely and efficiently to and returning as close as possible to your estimated time of arrival (ETA)
Risks (real or simulated):
Problems that can occur while flying a longer solo cross-country flight, such as being unfamiliar with the airspace and changing weather

Improving your skills:
Appropriate logbook and certificate endorsements
- *Provide endorsements as necessary*

Route selection
- *Review customer's flight planning*

Flight publications and currency
- *Ensure the customer's chart supplement and navigation chart(s) are current and marked as appropriate*

Obtaining a weather briefing
Risk management
Aeronautical decision making
Cross-country flight planning and performance
Cross-country navigation log
Cockpit management
Power settings and mixture control
Opening flight plans
VFR flight following
Pilotage and dead reckoning
Navigation aids and radar services
In-flight weather resources
Closing flight plans

Appendix A

PHASE 9, SCENARIO 4: Solo Practice

Objective:
Practice maneuvers in preparation for the final phase of training
INSTRUCTOR NOTE: The customer will gain proficiency during a local solo flight. Ensure all required endorsements are current.
Where to go:
A point within 30 minutes flight time that is in suitable airspace and free of hazards
How to get there:
Pilotage, GPS
Planned deviations:
None
Planned malfunctions:
None
Purpose / pressures (real or simulated):
Practicing performance takeoff and landings without instructor assistance, knowing when to go around or discontinue an unsafe approach or landing attempt, safely complete the flight
Risks (real or simulated):
Traffic, maneuvering at low speeds close to the ground while practicing takeoffs and landings, practicing maneuvers without an instructor

Improving your skills:
Risk management
Situational awareness
Controlled flight into terrain awareness
Short-field takeoff and maximum performance climb
Short field approach and landing
Soft-field takeoff and climb
Soft-field approach and landing
Ground reference maneuvers
Steep turns
Maneuvers assigned by your instructor

PHASE 10, SCENARIO 1: Mock FAA Practical Test

Objective:
You will fly with a designated instructor to ensure you are ready for the practical test
INSTRUCTOR NOTE: This scenario is to represent a full practical test where you are to act as the examiner, using the airman certification standards (ACS) as your guide. If any tasks are completed not to ACS tolerances, additional scenarios should be repeated as required.
Where to go:
A point or airport suitable to accomplish the simulated practical test
How to get there:
Pilotage, navigation aids and radar services, dead reckoning
Planned deviations:
As assigned by instructor
Planned malfunctions:
As assigned by instructor
Purpose/pressures (real or simulated)
As assigned by instructor
Risks (real or simulated):
As assigned by instructor

This scenario includes all items in the applicable airman certification standards (ACS)

Single-pilot resource management
Task management
Risk management
Situational awareness
Aeronautical decision making
Controlled flight into terrain awareness
Automation management

Preflight preparation
Certificates and documents
Airworthiness requirements
Weather information
Cross-country flight planning
National airspace system
Performance and limitations
Operation of systems
Aeromedical factors
Principles of flight *[Sport Pilot only]*

Preflight procedures
Preflight inspection
Single-pilot resource management
Cockpit management
Engine starting
Taxiing
Before takeoff check

Airport operations
Radio communications
ATC light signals *[Private Pilot only]*
Traffic patterns

Takeoffs, landings, and go-around/rejected landings
Normal and crosswind takeoff and climb
Normal and crosswind approach and landing

Appendix A

Soft-field takeoff and climb
Soft-field approach and landing
Short-field takeoff and climb
Short-field approach and landing
Forward slip to a landing
Go-around/rejected landing

Performance maneuver
Steep turns

Ground reference maneuvers
Rectangular course
S-turns
Turns around a point

Navigation
Pilotage and dead reckoning
Navigation systems and radar services
Diversion
Lost procedures

Slow flight and stalls
Maneuvering during slow flight
Power-off stalls
Power-on stalls
Spin awareness

Basic instrument maneuvers *[Private Pilot only]*
Straight-and-level flight
Constant airspeed climbs
Constant airspeed descents
Turns to headings
Recovery from unusual flight attitudes
Radio communications, navigation systems/facilities, and radar services

Emergency operations
Emergency approach and landing (simulated)
Systems and equipment malfunctions
Emergency equipment and survival gear

Night operation *[Private Pilot only]*
Night preparation

Postflight procedures
After landing, parking and securing

PHASE 10, SCENARIO 2: Final **PROGRESS CHECK**

Objective:
You will fly with a designated instructor to ensure you are ready for the practical test
INSTRUCTOR NOTE: This scenario is to represent the practical test (oral and flight).
Where to go:
A point or airport suitable to accomplish the simulated practical test
How to get there:
Pilotage, navigation aids and radar services, dead reckoning
Planned deviations:
As assigned by instructor
Planned malfunctions:
As assigned by instructor
Purpose/pressures (real or simulated)
As assigned by instructor
Risks (real or simulated):
As assigned by instructor

This scenario includes all items in the applicable airman certification standards (ACS)

Single-pilot resource management
Task management
Risk management
Situational awareness
Aeronautical decision making
Controlled flight into terrain awareness
Automation management

Preflight preparation
Certificates and documents
Airworthiness requirements
Weather information
Cross-country flight planning
National Airspace System
Performance and limitations
Operation of systems
Aeromedical factors
Principles of flight *[Sport Pilot only]*

Preflight procedures
Preflight inspection
Cockpit management
Engine starting
Taxiing
Before takeoff check

Airport operations
Radio communications
ATC light signals *[Private Pilot only]*
Traffic patterns

Takeoffs, landings, and go-around/rejected landings
Normal and crosswind takeoff and climb
Normal and crosswind approach and landing
Soft-field takeoff and climb
Soft-field approach and landing
Short-field takeoff and climb

Appendix A

Short-field approach and landing
Forward slip to a landing
Go-around/rejected landing

Performance maneuver
Steep turns

Ground reference maneuvers
Rectangular course
S-turns
Turns around a point

Navigation
Pilotage and dead reckoning
Navigation systems and radar services
Diversion
Lost procedures

Slow flight and stalls
Maneuvering during slow flight
Power-off stalls
Power-on stalls
Spin awareness

Basic instrument maneuvers *[Private Pilot only]*
Straight-and-level flight
Constant airspeed climbs
Constant airspeed descents
Turns to headings
Recovery from unusual flight attitudes
Radio communications, navigation systems/facilities, and radar services

Emergency operations
Emergency approach and landing (simulated)
Systems and equipment malfunctions
Emergency equipment and survival gear

Night operation *[Private Pilot only]*
Night preparation

Postflight procedures
After landing, parking and securing

U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Mr. John McWhinney
Senior Course Developer
King Schools, Inc.
3840 Calle Fortunada
San Diego, CA 92123

Dear Mr. McWhinney:

The Federal Aviation Administration (FAA) has reviewed the King Syllabus sport pilot/private pilot, version 1.07 dated December 2019. The FAA finds the content of the private pilot syllabus meets acceptable training standards for use under Title 14 Code of Federal Regulations (14 CFR) part 141. The syllabus is adequate in scope and content for use under part 141 training provided all relevant part 141 requirements are adhered.

While a sport pilot course is not a course listed in part 141, §141.11 (b), this course could be approved under §141.57 as a special curricula course. The sport pilot course could achieve a level of pilot proficiency equivalent to that achieved by a training course and meet the requirements under part 61 of this chapter.

It is not a function of this office to certificate 14 CFR part 141 pilot schools and this letter is not to be construed as an authorization to conduct part 141 training. We are only acknowledging the material presented to the FAA's General Aviation and Commercial Division would be appropriate for use in a certificated part 141 pilot school. The authorization to operate a part 141 pilot school using this syllabus, or any other training material, is a function of the jurisdictional Flight Standards District Office (FSDO).

If you have any further questions, please do not hesitate to contact the General Aviation and Commercial Division at (202) 267-1100, or by email at 9-AFS-800-Correspondence@faa.gov.

Sincerely,

Shawn M. Hayes,
Manager, Airmen Training and Certification Branch
Flight Standards Service

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