CESSNA FLIGHT TRAINING

COURSE SYLLABUS

SPORT / PRIVATE PILOT

Cessna
Pilot Center

Cessna eLearning
Web Based Instructional Programs

Cessna Sport / Private Pilot Training Course

SYLLABUS

King Schools, Inc.
3840 Calle Fortunada
San Diego, CA 92123

800-854-1001 (USA) • 858-541-2200 (Worldwide)
www.kingschools.com

Version 1.06

©Copyright 2012 – 2016

King Schools, Inc.

All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission of the author and publisher. Manufactured in the United States of America.

Cessna Sport / Private Pilot Syllabus
Your Path to Becoming a Pilot

TABLE OF CONTENTS

INTRODUCTION

Steps for Becoming a Pilot i
Requirements for Enrollment i
Course Elements i
Course Structure ii
Syllabus Structure v
Overall System Use viii
FAA Industry Training Standards (FITS) ix
Single-Pilot Resource Management (SRM) xi
Learner-Centered Grading xii
Everyday Use of FITS Concepts xiv
Knowledge Content xv
Flight Scenarios xxiv

KNOWLEDGE AND FLIGHT ELEMENTS

Stage 1: Pre-solo 1
Stage 2: Solo Flight and Cross-Country 47
Stage 3: Preparing for your Practical Test 81

APPENDIX A (EXPANDED INSTRUCTOR BRIEFINGS)

Stage 1, Phase 4 (Pre-solo Briefing) A1
Stage 2, Phase 7 (Solo Cross Country Briefing) A1
Stage 3, Phase 10 (Practical Test Briefing) A2

APPENDIX B (SUGGESTED KNOWLEDGE REVIEW SESSIONS)

Stage 1 ..... B1
Stage 2 and Stage 3 ..... B2

APPENDIX C (RISK MANAGEMENT CHECKLISTS)

PAVE C1
CARE C2

APPENDIX D (CESSNA SPORT / PRIVATE TRAINING REQUIREMENTS)

Requirements D1
Ground Training Summary D2
Flight Time Requirements Overview D3
Recommended Flight Times Private Pilot (Part 141) D4
Recommended Flight Times Private Pilot (Part 61) D5
Recommended Flight Times Sport Pilot (Part 61) D6

APPENDIX E (PRESOLO KNOWLEDGE TEST QUESTIONS)

Overview E1
References E1
Written Quiz E2
Take-Home Test E3

SPORT / PRIVATE SYLLABUS
REVISION RECORD

Revision Number	*Revision Date*	*Online Date*	*Change Description*
Ver. 1.00	08-06-09	ORIGINAL	ORIGINAL
Ver. 1.01	10-20-09	10-20-09	Pg 62: revised Where to go: "more than 50 nm for private"
Ver. 1.02	06-02-10	06-08-10	Whole document: Added page version numbers
Ver. 1.02	06-02-10	06-08-10	Table of Contents: Added Knowledge and Flight Elements Stages
Ver. 1.02	06-02-10	06-08-10	Pg xvi expanded CPC knowledge test information and added certificate information under Solo Flights
Ver. 1.02	06-02-10	06-08-10	Pg 29 revised lesson title; Pg 30 revised knowledge area title and revised lesson title
Ver. 1.02	06-02-10	06-08-10	Pg 39 added Part 141 certificate requirement to enroll in solo phase.
Ver. 1.02	06-02-10	06-08-10	Pg 67 revised lesson title
Ver. 1.02	06-02-10	06-08-10	Pg 75 revised Where to go: "more than 50 nm"
Ver. 1.02	06-02-10	06-08-10	Pg 76 revised Where to go: "at least 100 nm total distance with one segment more than 50 nm…landings at a minimum of three different airports…"
Ver. 1.02	06-02-10	06-08-10	Pg D1 corrected typo
Ver. 1.03	06-01-12	06-15-12	Pg 4, 5, 6, 7, 13, 14, 15, 16, 18, 19, 39, 40, 41, 43, 45, 56, 57, 60, 64, 83, 85, 88 & 90 added task "Runway incursion avoidance"
Ver. 1.03	06-01-12	06-15-12	Pg 22 revised lesson title "Engine Fire in Flight" to match web instruction ground lesson title "Fires"
Ver. 1.03	06-01-12	06-15-12	Pg 25, 26, 27, 33, 34, 36, 84, 86, 89 & 92 added task "Emergency descent"
Ver. 1.03	06-01-12	06-15-12	Pg 60, 64, 89 & 91 added magnetic compass use to task standard
Ver. 1.03	06-01-12	06-15-12	Pg 87 & 90 revised standards on Single-pilot resource management tasks to read: "Practical test standards"
Ver. 1.03	06-01-12	06-15-12	Pg 88, 89, 91 & 92 revised standards for all tasks under Airport operations; Takeoffs, landings, and go-arounds; Performance maneuvers; Ground reference maneuvers, Slow flight & stalls; and Emergency operations to read "Practical test standards"
Ver. 1.03	06-01-12	06-15-12	Pg 89 & 91 revised the Navigation task standards for *Pilotage and dead reckoning*, *Navigation systems and radar services*, and *Diversion* to read: "Practical test standards except maintains appropriate altitude +/-100 feet"
Ver. 1.03	06-01-12	06-15-12	Pg 89 & 92 revised the Basic instrument maneuvers task standard for *Radio communications, navigation systems/facilities, and radar services* to read: "Practical test standards except maintains heading +/-10°"
Ver. 1.04	12-10-15	12-21-15	Pg i added Requirements for Enrollment

SPORT / PRIVATE SYLLABUS
REVISION RECORD

Revision Number	*Revision Date*	*Online Date*	*Change Description*
Ver. 1.04	12-10-15	12-21-15	Pg xv - xxii added Required Aeronautical Knowledge Areas listing with associated knowledge lessons.
Ver. 1.04	12-10-15	12-21-15	Pg 48 Revised Radar Summary Chart lesson title to Weather Radar Information
Ver. 1.04	12-10-15	12-21-15	Pg 67 Revised ADF Intercepts lesson title to Using the ADF to Determine Position and revised Movable-Card Indicator lesson title to Using an RMI to Intercept and Track a Bearing
Ver. 1.05	06-15-16	06-15-16	Pg xvi, 79, 81-92, A2, B1, B2 replaced “Practical Test Standards” with “Airman Certification Standards”.
Ver. 1.05	06-15-16	06-15-16	Pg 83 & 85 Changed the following to be consistent with the ACS: “Certificates and documents” to “Pilot Qualifications”, “Aeromedical factors” to “Human factors”, “Preflight inspection” to “Preflight assessment”, and removed “Runway incursion avoidance” (incorporated into taxiing, traffic patterns, and takeoff and landing tasks).
Ver. 1.05	06-15-16	06-15-16	Pg 84 & 86 To be consistent with the ACS, removed “and crosswind” to read “Normal takeoff and climb” and “Normal approach and landing” and deleted “Rectangular course”, “S-turns”, and “Turns around a point” and made “Ground reference maneuvers” a task under Performance Maneuvers.
Ver. 1.05	06-15-16	06-15-16	Pg 22 & 55 Changed Airport/Facility (A/FD) to Chart Supplement
Ver. 1.06	11-30-16	11-30-16	Pg vii, D3, D4 Clarified that flight time graduation requirements are based on 14 CFR Pt 141 Appendix B not the representative times shown on D4.
Ver. 1.06	11-30-16	11-30-16	Pg xxv Added Graduation Certificate valid for Pt 61 Practical test within 60 days.

Cessna Sport / Private Pilot Syllabus
Your Path to Becoming a Pilot

Congratulations!

You now embark on one of the most exciting endeavors—learning to fly. You will find it challenging and fun, as well as intellectually, physically and emotionally stimulating. Whether you use an airplane as a tool for business or simply to get above and beyond life on the ground, you'll find that the act of piloting an airplane expands your mind and senses like nothing else you've ever experienced.

This syllabus is the guide to your flight training. By following it, you know the objective of every phase of training and individual flight scenario. It also helps you to understand the topics that you need to study before you go to the airport and to check your progress throughout your training.

Each flight scenario within the course of training forms a building block to move you towards your goal of becoming a safe, competent pilot.

Best of all, you know when you've done well, because each phase outlines the completion standards you need to achieve.

STEPS FOR BECOMING A PILOT

Earning a certificate to be "Pilot in Command" with the right to carry one or more passengers involves a few specific steps. Your Cessna Pilot Center will explain each step below in detail.

- Be at least 17 years old (you can start training earlier).
- Pass a simple medical exam (Private Pilot) or hold a valid driver's license (Sport Pilot).
- Pass a test on aeronautical knowledge (this course prepares you for that test).
- Complete the required flight training for the course (see Appendix D).
- Pass a practical test

REQUIREMENTS FOR ENROLLMENT

Prior to enrolling in the solo flight portion of the curriculum, the customer must

- If for a Part 141 Private Pilot Certification course or a Part 61 Private Pilot course, hold
    - Either a Recreational Pilot certificate, Sport Pilot certificate or a Student Pilot certificate
    - At least a Third Class Medical certificate
- If for a Part 61 Sport Pilot course, hold
    - Valid U.S. Driver's License

COURSE ELEMENTS

The Cessna online pilot training

- Provides innovative and interactive learning exercises.
- Is accessible anywhere you have an Internet connection.
- Can be downloaded for your convenience.

The unique design of the training program

- Integrates web-based knowledge sessions with flight scenarios.
- Ensures that before every flight you will have the required knowledge to succeed.
- Includes flight previews to give you a pilot's view of what you will practice in the airplane.

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

- When to complete the appropriate web-based knowledge instruction and flight previews.
- What to bring with you for each flight scenario.

Upon completion of each flight scenario you and your instructor will

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

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

COURSE STRUCTURE

STAGES

The course is divided into three stages.

- Stage 1: Pre-Solo
- Stage 2: Solo & Cross-Country
- Stage 3: Preparing for Your Practical Test

PHASES

Each stage is divided into phases. There are a total of ten phases:

Stage 1: Pre-Solo

Phase 1: Learning Your Airplane
Phase 2: Improving Control
Phase 3: Takeoffs and Landings
Phase 4: Preparing for Solo Flight
Phase 5: Solo Flight

Stage 2: Solo & Cross-Country

Phase 6: Getting Ready for Cross-Country Flying
Phase 7: Flying Cross-Country
Phase 8: Flying at Night
Phase 9: Advancing Your Skills

Stage 3: Preparing for Your Practical Test

Phase 10: Final Preparation for Your Practical Test

SCENARIOS

There are multiple flight scenarios within each phase. The completion standards for each phase are found in the phase proficiency checklist.

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

You are not required to complete every flight scenario within a phase, but it is highly recommended that you do so, as the scenarios progress in complexity to give you maximum efficiency in your training.

PHASE SEQUENCE
The ten phases are:

1. LEARNING YOUR AIRPLANE — In this phase you learn what makes your airplane fly, how to control your airplane in flight, and how to know if your airplane is airworthy.

2. IMPROVING CONTROL — Here you add to your skill set the maneuvers that allow you to fly more precisely. You hone the basic skills you have already learned, and develop safety habits that will serve you well throughout your flying career. You will also fly with another instructor to check your progress.

3. TAKEOFFS AND LANDINGS — This is where you put into practice all of your skills, so you can make satisfying takeoffs and landings on your own.

4. PREPARING FOR SOLO FLIGHT — Here you practice airport operations, takeoffs and landings, emergency procedures, and ground reference maneuvers in order to ensure you are ready for solo flight. You will also receive a pre-solo briefing as well as take a pre-solo knowledge test.

5. SOLO FLIGHT — After passing a progress check to ensure you are safe and ready to fly on your own, you will take your exciting first solo flight that you will remember for a lifetime.

6. GETTING READY FOR CROSS-COUNTRY FLYING — In this phase, you learn short- and soft-field takeoff and landing techniques, navigation, and control of the airplane by reference to the flight display.

7. FLYING CROSS COUNTRY — Here you learn the steps involved in planning and flying a safe and successful cross-country. You will receive a solo cross-country briefing and take the Cessna Pilot Center knowledge test. After passing a progress check, you will complete your first solo cross-country flight.

8. FLYING AT NIGHT *(PRIVATE PILOT COURSE ONLY)* — In this phase you discover what night flying is all about by taking both a local and a cross-country flight at night.

9. POLISHING YOUR SKILLS *(PRIVATE PILOT COURSE ONLY)* — Here you go on your longest solo cross-country flight and wrap up any loose ends with your training.

10. FINAL PREPARATION FOR YOUR PRACTICAL TEST — In the final phase, you review everything you have learned. After passing the final progress check, you have completed the course and are ready for the FAA practical test.

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

- Weather and other factors may make it impractical to conduct a particular flight scenario while another may be possible.
- In this case your instructor, with the approval of the chief instructor, may suggest out-of-phase and out-of-stage scenarios that can be completed with the current conditions.
- Your instructor may also determine that you can complete all or portions of a flight scenario using an aviation training device or flight simulation software.
    - These sessions will enhance your learning and allow you to continue progress on a scenario or phase when conditions preclude flight in the airplane.

SPORT PILOT CERTIFICATE OPTION

The Cessna Sport / Private Syllabus and Web-Based Knowledge Instruction (WBI) course supports preparing for either a Sport Pilot or Private Pilot certificate. You will choose one certificate level or the other when you enroll in the course, but you may easily change your decision well into your training if you find the other pilot certificate better serves your needs. Be sure to discuss with your instructor why you are learning to fly and what you plan to do with your pilot certificate. Together you can examine the Sport and Private requirements and their associated certificate privileges, so you can best match them to your expectations.

The sport pilot certificate allows you to skip all of Phases 8 and 9 and proceed directly to Phase 10. However, please keep in mind that you will miss out on the joys of flying at night and the extra privileges of a private pilot certificate.

As a sport pilot you can

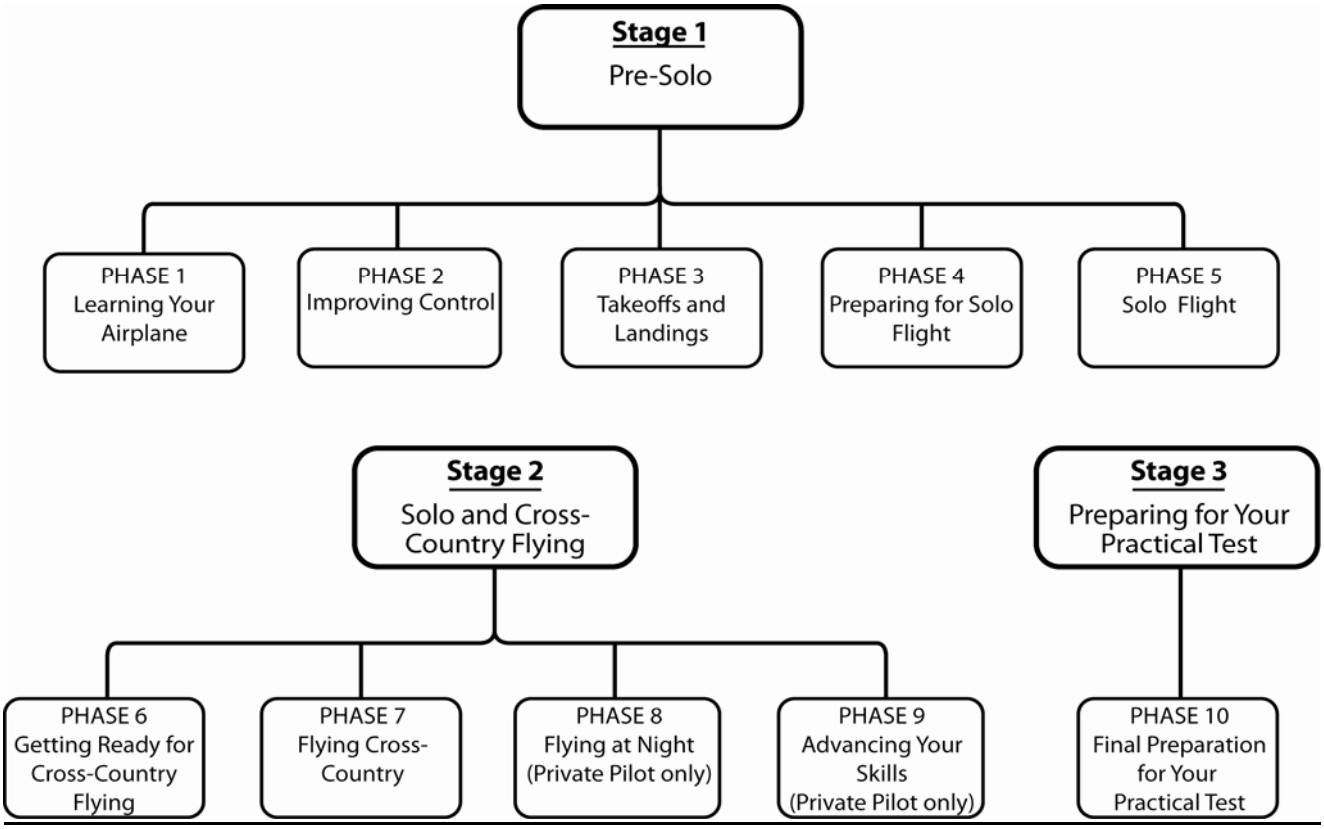
- Fly a two-seat light sport airplane.
- Carry one passenger.
- Fly during the day.
- Fly with a valid driver’s license instead of a medical certificate.

As a private pilot you can

- Fly airplanes carrying more than one passenger.
- Fly at night.
- Become instrument rated to fly in conditions unsuitable for visual flight.
- Fly to airports in more complex airspace.

SYLLABUS STRUCTURE

The syllabus is divided into three stages and consists of ten phases.



STAGES
There are three stages of training. Each stage has

- *Suggested* one-on-one **Knowledge Review Sessions**
- *Required* **Expanded Instructor Briefings**
- *Required* **Progress Checks**

Knowledge Review Sessions
The s*uggested* one-on-one knowledge review sessions are designed to

- Supplement the web-based knowledge instruction as necessary, and
- Enhance learning by identifying any weak areas.

The one-on-one knowledge review sessions

- Are not required but strongly recommended.
- Can be found in Appendix B of the syllabus.

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

Expanded Instructor Briefing
Before each knowledge test, there is in a *required* expanded instructor briefing as a final preparation for the test. These briefings

- Can be found in Appendix A of the syllabus
- Occur in
    - Stage 1, Phase 4*: Pre-Solo Briefing*
        - Pre-Solo Knowledge Test
    - Stage 2, Phase 7*: Solo Cross-Country Briefing*
        - CPC Knowledge Test
    - Stage 3, Phase 10*, Practical Test Briefing*
        - FAA Practical Test

Progress Check
Within each stage, there is a *required* progress check that

- Checks your progress and the effectiveness of your instructor pairing.
- Consists of oral quizzing and a flight.
- Is given by the Chief Flight Instructor, Assistant Chief Flight Instructor or a designated instructor.

The progress checks can be found in

- Stage 1
    - Phases 2 and 5
- Stage 2
    - Phase 7
- Stage 3
    - Phase 10

PHASES
There are 10 phases of training. Each phase has

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

Web-based Knowledge Instruction that

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

Flight Scenarios

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

Phase Ground Training Checklists

- Can be prepared for through study of the web-based curriculum, flight preview and course library materials
    - Including FAA publications such as the Pilot's Handbook of Aeronautical Knowledge and Airplane Flying Handbook
- Contain knowledge areas "New this Phase"
- These items
    - Can be recorded as 'Instruction Given', 'Describe' or 'Explain'
    - Must be demonstrated to the 'Explain' level to complete the phase.
        - 'Instruction Given' indicates that your instructor briefed you on the subject.
        - 'Describe' indicates that you are able to describe the physical characteristics of the maneuver or knowledge area.
        - 'Explain' indicates that you are able to describe the task or knowledge area and understand the underlying concepts, principles and procedures.

Phase Proficiency Checklists

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

PROGRESSING THROUGH THE SYLLABUS

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

It is recommend that the order of the suggested scenarios be followed

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

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

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

If you are able meet all of the phase standards and skip a scenario, you and your instructor must make sure that you meet the hourly training requirements shown in Appendix D page D3 if they are applicable to your training course. It is possible that you could finish up the course and have to make up time at the end.

For customers enrolled in a Part 141 Private Pilot Certification Course, this syllabus requires, and the Course Tracking Application (CTA) audits the minimum flight times as required by 14 CFR Part 141 Appendix B.

INTEGRATING AVIATION TRAINING DEVICES INTO THE COURSE
It is highly recommended that computer simulation software and aviation training devices be used to familiarize you to new concepts and techniques whenever possible.

This syllabus is designed for integrated use with a wide variety of aviation training devices (ATDs), which include basic aviation training devices (BATDs) and advanced aviation training devices (AATDs).

The following scenarios may be performed in an aviation training device before flying the scenario in the airplane:

- Stage 1
  - Phase 2, Scenario 3
    - *Making Steep Turns*
  - Phase 4, Scenario 1
    - *Using Your Flight Display/Instruments to Control the Airplane*
- Stage 2
  - Phase 6, Scenario 3
    - *Using Electronic Navigation / Instrument Flight*
  - Phase 7, Scenario 1
    - *Going Cross-Country*
  - Phase 7, Scenario 4
    - *Your First Solo Cross-Country*
- Stage 3
  - Phase 10, Scenario 1
    - *Mock FAA Practical Test*

OVERALL SYSTEM USE

The Cessna Sport / Private training system is designed to provide the most benefit when

- The instructor assigns preparation for the next scenario
  - Web-based study
  - Suggested study materials
  - Scenario planning

- Prior to the next scenario, you
  - Study the assigned materials
  - Print a Phase Progress Report for your training records at the airport
  - Perform the necessary scenario planning

- Prior to the flight, the instructor
  - Prints your training package including the
    - Phase Ground Training Checklist
    - Phase Proficiency Checklist
    - Scenario

- During the preflight briefing
    - Your instructor reviews the Phase Progress Report you provide and evaluates the applicable items on the Phase Ground Training Checklist
    - You ask any questions you may have and clarify your understanding of the knowledge areas and the upcoming scenario you will fly and brief the instructor on the scenario planning

- During the postflight briefing
    - You independently grade the applicable tasks on the Phase Proficiency Checklist
    - Your instructor independently grades the tasks on the Phase Proficiency Checklist
    - You then discuss the scenario outcome and compare grading
    - The instructor logs the scenario into the Course Tracking Application on the computer at your Cessna Pilot Center

FAA INDUSTRY TRAINING STANDARDS (FITS)

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

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

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

Single-Pilot Resource Management (SRM) includes the concepts of aeronautical decision making (ADM), risk management (RM), task management (TM), automation management (AM), controlled flight into terrain (CFIT) awareness, and situational awareness (SA). SRM training helps the pilot to accurately assess and manage risk, thereby making logical and timely decisions.

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

SCENARIO-BASED TRAINING

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

Scenario-based training goals include the development of

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

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

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

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

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

SCENARIO PLANNING

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

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

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

- The better we learn core safety habits, and
- Decision-making skills that can be applied in the real-world.

SINGLE-PILOT RESOURCE MANAGEMENT (SRM)

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

SRM includes the concepts of

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

SRM training helps a pilot maintain situational awareness by

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

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

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

Below are standards for each training concept of SRM:

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

LEARNER-CENTERED GRADING

Learner-centered grading includes two parts

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

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

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

INDEPENDENTLY GRADING THE SCENARIO

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

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

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

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

You and your instructor may disagree on the evaluations.

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

MANEUVER (TASK) GRADES

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

Example:

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

SINGLE-PILOT RESOURCE MANAGEMENT (SRM) GRADES

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

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

EVERYDAY USE OF FITS CONCEPTS

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

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

The PAVE checklist puts risk factors into four categories:
Pilot
Aircraft
en**V**ironment
External pressures

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

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

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

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

KNOWLEDGE CONTENT

WEB-BASED KNOWLEDGE INSTRUCTION

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

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

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

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

REQUIRED AERONAUTICAL KNOWLEDGE AREAS

The Federal Aviation Regulations, 14 CFR Parts 61 and 141, list aeronautical knowledge areas that must be included in the ground training for a Private Pilot Certificate Course. All required areas are covered in this course, but they are distributed throughout the curriculum for subject continuity and logical development. You will find these required topics included in lessons listed as follows:

(1) Applicable Federal Aviation Regulations for private pilot privileges, limitations, and flight operations

PHASE 1; 1.3.2 Airworthiness of the Airplane
- Certificates and Documents
- Equipment Required for Flight
- Required Inspections
- Special Flight Permits
- Basic Airplane Maintenance

PHASE 4; 4.1.1 Airspace
- Basics of the Airspace System
- Class G Airspace
- Class E Airspace
- Class D Airspace
- Class C Airspace
- Class B Airspace
- Class A Airspace

PHASE 4; 4.1.2 Other Airspace
- Special Use Airspace
- Other Airspace Areas
- Temporary Flight Restrictions

PHASE 4; 4.1.3 Airspace Rules
- Speed Limits
- Weather Minimums

PHASE 4; 4.2.1 Rules Governing Pilots
Pilot and Airplane Certification
Medical Certification
Student Pilot, Sport Pilot, and Private Pilot Privileges
Staying Current and Qualified
Before You Fly

PHASE 4; 4.2.2 Rules For Flight
Right-of-way Rules
Collision Avoidance
Flying at High or Low Altitude
Air Traffic Control and LAHSO

PHASE 5; 5.1.1 Solo Flight
Solo Flight

PHASE 10; 10.1.1 Coming Prepared to Your checkride
FAA Form 8710
Airplane Logbooks
Items to Bring
Airman Certification Standards

(2) Accident reporting requirements of the National Transportation Safety Board

PHASE 4; 4.2.3 Rules for Reporting Accidents and Incidents
Accident and Incident Notification

(3) Applicable subjects of the "Aeronautical Information Manual" and the appropriate FAA advisory circulars

PHASE 3; 3.4.2 FAA Publications
Airport Facility Directory (A/FD)
Notices to Airmen (NOTAMS)
FAA Reference Materials

(4) Aeronautical charts for VFR navigation using pilotage, dead reckoning, and navigation systems

PHASE 2; 2.2.1 Using Your Airport
Coordinated Universal Time

PHASE 3; 3.4.1 VFR Aeronautical Charts
Locating Your Position Using Latitude and Longitude
Airport Symbols
Obstructions and Visual Checkpoints
VFR Chart Types

PHASE 4; 4.4.1 Advanced Navigation
Global Positioning System (GPS)
Getting There With GPS

PHASE 4; 4.4.2 Lost Procedures
Climb/Call/Get Help
Using Radios to Find Your Location

PHASE 7; 7.1.1 Flight Computer
- Mechanical Flight Computer
- Electronic Flight Computer
- Time-Speed-Distance Problems
- Fuel Problems
- Wind Problems
- Navigation Plotter
- E6B Functions on GPS/Multifunction Displays

PHASE 7; 7.1.2 Navigating Using Checkpoints on the Ground
- Pilotage
- Dead Reckoning
- Basic Compass Navigation

PHASE 7; 7.1.3 Keeping Track of Your Location
- Navigation Log
- FAA Flight Plan
- VFR Flight Following

PHASE 8; 8.1.3 Flying Cross-Country at Night
- Preparation and Equipment
- Route and Altitude Selection
- Using the G1000 at Night

(5) Radio communication procedures

PHASE 2; 2.2.2 Radio Communications
- Radios
- Safety Equipment
- Communicating by Radio
- Composing What to Say
- Lost Communications
- Landing With a Radio Failure

(6) Recognition of critical weather situations from the ground and in flight, windshear avoidance, and the procurement and use of aeronautical weather reports and forecasts

PHASE 3; 3.1.1 Basic Weather Theory
- What Makes Weather
- The Atmosphere
- Wind
- Moisture

PHASE 3; 3.1.2 Weather Patterns
- Stable and Unstable Air
- Air Masses and Fronts

PHASE 3; 3.1.3 Weather Hazards
- Fog
- Thunderstorms
- Wind Shear and Microbursts
- Turbulence
- Frost and Ice

PHASE 3; 3.1.4 Basic Sources of Weather Information
Telephone Weather Briefings
Online Weather Resources

PHASE 3; 3.4.3 Hazards
Wind Shear Awareness and Recovery procedures

PHASE 6; 6.2.1 Printed Reports and Forecasts
Aviation Routine Weather Reports (METARs)
Terminal Aerodrome Forecasts (TAFs)
Area Forecasts (FA)
Winds and Temperatures Aloft Forecasts
Radar Weather Reports
In-flight Aviation Weather Advisories

PHASE 6; 6.2.2 Graphic Weather Products
Surface Analysis Chart
Weather Depiction Chart
Low-Level Significant Weather Prog Chart
Weather Radar Information
Convective Outlook Chart

PHASE 6; 6.2.3 More Sources of Weather Information
Supplemental and In-Flight Weather Services
Cockpit Weather Displays

(7) Safe and efficient operation of aircraft, including collision avoidance, and recognition and avoidance of wake turbulence

PHASE 1; 1.1.2 Getting Ready for Flight
Ready for Flight?
Safe Habits Around Airplanes
Checking the Airplane Before Flight
Engine Start

PHASE 1; 1.1.3 Controlling the Airplane's Motion
Controlling the Airplane on the Ground
Getting into the Air
Straight-and-Level Flight
Turns, Climbs, and Descents
After the Flight

PHASE 2; 2.1.3 Basic Aviation Physiology
Understanding Hypoxia, Dehydration and Other Physical Factors
How Alcohol and Drugs Affect Flying

PHASE 2; 2.2.1 Using Your Airport
Runway and Taxiway Markings
Progressive Taxi Directions
Ramp Hand Signals

PHASE 2; 2.3.1 Learning About Ground Operations
Wind Direction and Runway to Use
Using Flight Controls While Taxiing

PHASE 2; 2.3.2 Flying Around Airports
The Traffic Pattern Around the Airport
Entering and Departing the Traffic Pattern
Communicating Your Intentions and Requests
Flying Safely in the Traffic Pattern

PHASE 2; 2.3.3 Correcting for Wind
Flying the Desired Path
Ground Reference Maneuvers

PHASE 2; 2.4.1 Normal and Crosswind Takeoffs and Landings
Takeoffs
Landings
Crosswind Landings
Visual Glide Path Indicators
Corrections While Landing
Going Around

PHASE 3; 3.3.1 Faulty Approaches and Balked Landings
Final Approach
Roundout
Touchdown
Correcting for Crosswinds

PHASE 3; 3.4.3 Hazards
Wake Turbulence Avoidance

PHASE 6; 6.1.1 Using Short or Soft Runways
Short-Field Takeoff and Landing
Soft-Field Takeoff and Landing

PHASE 3; 3.4.4 Emergencies
Emergencies in Flight
Basic Engine Failure Procedures
Emergency Approach and Landing
Engine Failure During and After Takeoff
Fires
Emergency Equipment and Survival Gear

PHASE 4; 4.4.3 Recovering from Unusual Attitudes
Using Emergency Instrument Skills

PHASE 8; 8.1.1 Vision in Flight
Night Vision
Visual Illusions
Spatial Disorientation

PHASE 8; 8.1.2 Night Operations
Sunset, Civil Twilight and Night
Preparation for Night Flying
Airplane and Airport Lighting
Night Emergencies

PHASE 10; 10.2.1 Your Responsibilities as PIC
Staying Current
Broadening Your Horizons
Transitions to Unfamiliar Airplanes

PHASE 10; 10.2.2 Passengers
Flying Safely and Risk Management
Coping With Passenger Anxiety or Illness

(8) Effects of density altitude on takeoff and climb performance

PHASE 3; 3.2.1 Predicting Performance
Factors Affecting Performance
More Factors Affecting Performance
Performance Speeds and Runway Conditions
The Pilot's Operating Handbook (POH)
Using Performance Charts

(9) Weight and balance computations

PHASE 3; 3.2.2 Airplane Loading
Airplane Weight and Balance
Methods of Weight and Balance Control

(10) Principles of aerodynamics, powerplants, and aircraft systems

PHASE 1; 1.1.1 Exploring the Airplane
The Main Parts of the Airplane
The Airplane’s Flight Controls

PHASE 1; 1.2.1 Learning about Your Airplane
Why an Airplane Flies Straight–and-Level
Comparing the Instruments to the View Outside
Learning About Heading
Learning About Airspeed and Altitude
Learning About Slow Flight

PHASE 1; 1.2.1 Basic Principles of Flight
The Forces of Flight
When Airflow is Disrupted
The Three Axes of Rotation
Using the Rudder

PHASE 1; 1.2.2 Controlling the Airplane in Flight
Making Turns
Understanding Load Factor
Understanding Maneuvering Speed
Climbs and Descents
Power-Off Descents
The Airplane’s Left-Turning Tendencies
How to Control Left-Turning Tendencies
Flying in Ground Effect
Using Trim and Flaps

PHASE 1; 1.2.3 Learning about Your Airplane
Why an Airplane Flies Straight–and-Level
Comparing the Instruments to the View Outside
Learning About Heading
Learning About Airspeed and Altitude
Learning About Slow Flight

PHASE 1; 1.4.1 Engine and Propeller
How the Engine Works
How the Engine Gets Air and Fuel
How Magnetos Work
Detonation and Preignition
How the Propeller Works

PHASE 1; 1.4.2 Airplane Systems
The Fuel, Oil and Hydraulic Systems
The Electrical System
The Environmental System

PHASE 4; 4.3.1 Primary Flight Displays
AHRS and Air Data Computer
Attitude Direction Indicator
Horizontal Situation Indicator
Engine and System Indicators
Map Display
Annunciations and Messages

PHASE 4; 4.3.2 Multifunction Displays
Engine and System Indicators
Map Display

PHASE 4; 4.3.3 Gyro-Based Instruments
Basic Gyroscopic Principles
Gyro-Based Instruments at Work

PHASE 4; 4.3.4 Basic Flight Instruments
Pitot-Static Instruments
Pitot-Static System Errors
Altimeter Errors

PHASE 4; 4.3.5 Magnetic Compass
Magnetic Compass Principles
Compass Errors
Using the Magnetic Compass

PHASE 8; 8.2.1 Automatic Direction Finder (ADF)
Understanding the ADF
Using the ADF
Using the ADF to Determine Position
Using an RMI to Intercept and Track a Bearing

PHASE 8; 8.2.1 VHF Omni-directional Range (VOR)
Understanding the VOR
Using VOR Radials
Testing VOR Accuracy

(11) If the course of training is for an airplane category or glider category rating, stall awareness, spin entry, spins, and spin recovery techniques

PHASE 2; 2.4.2. Learning About Stalls
- Stall Theory
- Mastering the Stall
- Stall Situations
- Spin Awareness

(12) Aeronautical decision making and judgment

PHASE 2; 2.1.1Single-Pilot Resource Management (SRM)
- Task Management (TM)
- Automation Management (AM)
- Risk Management (RM) and Aeronautical Decision Making (ADM)
- Situational Awareness (SA)
- Controlled Flight Into Terrain (CFIT) Awareness

PHASE 7; 7.1.3 Cockpit Resource Management
- Using Cockpit Resources
- Using Other Resources

(13) Preflight action that includes—

(i) How to obtain information on runway lengths at airports of intended use, data on takeoff and landing distances, weather reports and forecasts, and fuel requirements

PHASE 7; 7.1.1 Sources of Flight Information
- Airport/Facility Directory
- Sectional and/or Terminal Area Chart
- Flight Service Station
- Notices to Airmen (NOTAMS)

PHASE 7; 7.1.2 Planning and Organizing Your Cross-Country Flight
- Selecting Your Route
- Organizing Your Cross-Country Information
- Survival Gear

(ii) planned flight cannot be completed or delays are encountered

PHASE 2; 2.1.2 Practical Application of SRM
- The 5 Ps
- PAVE and CARE Checklists
- Personal Minimums
- Cockpit Management

PHASE 9; 9.1.1 The Long Cross-Country Flight
- Before You Go
- Keeping Track of Your Progress

EXPANDED BRIEFINGS

Before each significant event in your flight training you will receive an expanded briefing scheduled by your instructor. This briefing ensures that all goes as smoothly as possible for your

- First solo flight
- First solo cross-country flight
- FAA practical test

During these expanded briefings, your instructor will ask you questions about your airplane and the local flight environment as well as questions specific to the phase of training you have just completed.

These briefings will be conducted one-on-one with your instructor and can be found in *Appendix A*.

SUGGESTED KNOWLEDGE REVIEW SESSIONS

To fine tune your knowledge, there are suggested knowledge review sessions associated with each stage of training. These are designed to be an *optional* supplement to the web-based knowledge instruction and are conducted one-on-one with your instructor.

Feel free to ask your instructor questions. Your instructor is there for you and your success. The suggested knowledge review sessions can be found in *Appendix B* of the syllabus.

CESSNA PILOT CENTER (CPC) KNOWLEDGE TEST

Cessna's online pilot training includes a separate FAA question review

- Contains examples of FAA knowledge test questions.
- Provides the answers and explanations of the correct and incorrect answer choices.
- Prepares you to take the CPC and the FAA knowledge test.

Before your first solo cross-country in Phase 7, you will take your Cessna Pilot Center (CPC) knowledge test. This test

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

When you have completed all the questions in your Cessna Pilot Center knowledge test

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

When you have finished the test, your instructor will

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

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

FLIGHT SCENARIOS

PREFLIGHT BRIEFING

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

- Use this opportunity to ask any questions.
- Make sure you understand what is expected of you.

DUAL FLIGHTS

A dual flight is one performed with your instructor. A scenario conducted as a dual flight will usually begin with a review of tasks from previous flights, and then new tasks will be introduced. This will help you to see the relationships between what you have previously learned and the new tasks to be performed on the flight.

For dual flights, (IR) means “instrument reference,” or reference to the flight display or instruments only.

- You will need a view-limiting device such as a hood or view-restricting glasses for a scenario having (IR) associated with any task.

SOLO FLIGHTS

Before your solo flights, your instructor will make sure you understand

- The assigned destination and route.
- What you should accomplish during the flight.
- The required endorsements for the flight.

Your instructor will also review any limitations you are to observe for the flight regarding the weather and airspace.

You will need to have a student pilot certificate in your physical possession when making solo flights. Your Cessna Pilot Center will tell you where you can obtain that certificate. If you are enrolled into a Part 141 Private Pilot course, you must hold either a recreational pilot certificate, sport pilot certificate, or a student pilot certificate before you may enroll in the solo phase of that course.

POSTFLIGHT DISCUSSION AND EVALUATION

After each flight, you and your instructor will

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

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

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

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

PROGRESS CHECKS

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

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

CREDIT FOR PREVIOUS TRAINING (PART 141)

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

- Your new school may determine the amount of credit you are allowed by a flight check or a written test, or both.
- Credit for ground school instruction may be determined by an oral examination.
- Maximum credit allowed is 50% of the curriculum requirements of your new school.

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

CREDIT FOR PREVIOUS TRAINING (PART 61)

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

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

PART 141 COURSE GRADUATION CERTIFICATE

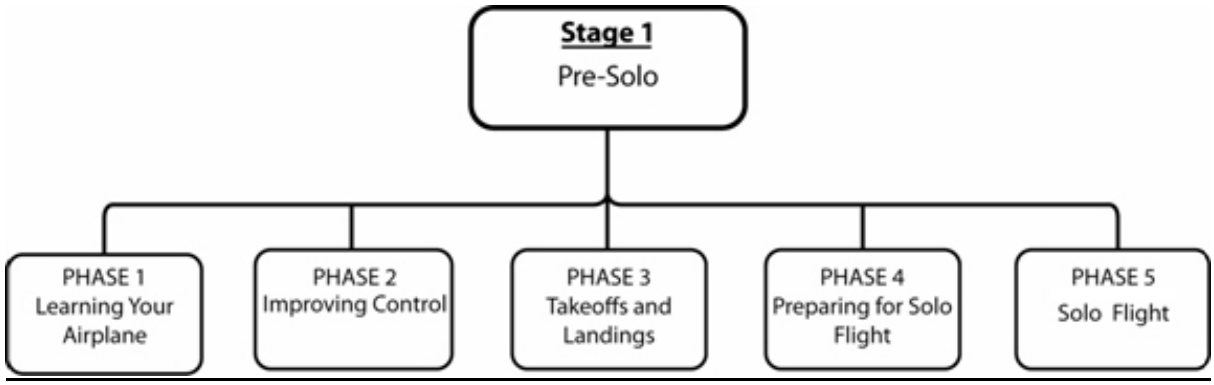
If you enroll in a Part 141 course and complete all the requirements, you will be issued a Graduation certificate. With this certificate you are considered have met the applicable aeronautical experience, aeronautical knowledge, and areas of operation requirements of Part 61 for the applicable practical test if passed within 60 days of its issuance.

GUARANTEE OF QUALITY

This multimedia online pilot training system is available exclusively through Cessna Pilot Centers. It is structured so that you receive the highest quality pilot training at any Cessna Pilot Center located around the world.

INTENTIONALLY LEFT BLANK

STAGE 1: Pre-Solo



Stage 1 consists of five Phases

- Learning Your Airplane
- Improving Control
- Takeoffs and Landings
- Preparing for Solo Flight
- Solo Flight

Stage Objective: During this stage you will

- Become familiar with the training airplane
- Learn safe practices and checklist usage
- Learn how the aircraft controls are used to establish and maintain specific flight attitudes
- Be introduced to ground reference maneuvers in order to learn methods of controlling wind drift
- Learn appropriate emergency operations
- Be introduced to basic instrument maneuvers
- Learn and practice takeoffs, landings, and operations to and from local airports
- Perform a solo flight

Each phase contains **Web-based Knowledge Instruction**

- The web-based knowledge instruction for the phase should be completed prior to starting the flight scenarios to ensure fundamental knowledge before the flight.

Each phase contains multiple **Flight Scenarios** that can be

- Customized for your local training environment
- Repeated, or
- Omitted if all items in the Phase Proficiency Checklist are completed to standard.

At the end of each Phase are the **Ground Training Checklist** and **Phase Proficiency Checklist**

- All items in the checklist must be completed to the appropriate standard listed before the Phase is considered complete.

PHASE 1: Learning Your Airplane

Phase Objective: During this phase you will learn

- Preflight procedures
- Ground operations
- Basic aircraft control
- Postflight procedures

Web-based KNOWLEDGE

GETTING TO KNOW YOUR AIRPLANE
HOW AN AIRPLANE FLIES
MORE ABOUT YOUR AIRPLANE
AIRPLANE ENGINES AND SYSTEMS

1) GETTING TO KNOW YOUR AIRPLANE

Objectives: You will learn about preflight preparation and how a pilot tells if an airplane is ready for flight. Also, you will learn how to control the airplane on the ground and in the air.

I. Exploring the Airplane
- The Main Parts of the Airplane
- The Airplane's Flight Controls

II. Getting Ready for Flight
- Ready for Flight?
- Safe Habits Around Airplanes
- Checking the Airplane Before Flight
- Engine Start

III. Controlling the Airplane's Motion
- Controlling the Airplane on the Ground
- Getting into the Air
- Straight-and-Level Flight
- Turns, Climbs, and Descents
- After the Flight

2) HOW AN AIRPLANE FLIES

Objectives: You will learn the forces that act on an airplane and why those forces change when flying very close to the ground. Also, you will learn how to properly use trim and flaps.

I. Basic Principles of Flight
- The Forces of Flight
- When Airflow is Disrupted
- The Three Axes of Rotation
- Using the Rudder

II. Controlling the Airplane in Flight
- Making Turns
- Understanding Load Factor
- Understanding Maneuvering Speed
- Climbs and Descents
- Power-Off Descents
- The Airplane's Left-Turning Tendencies
- How to Control Left-Turning Tendencies
- Flying in Ground Effect
- Using Trim and Flaps

3) MORE ABOUT YOUR AIRPLANE

Objectives: You will learn what makes an airplane tend to fly straight-and-level on its own and why it may take more power to fly slowly.

I. Learning about Your Airplane

- Why an Airplane Flies Straight–and-Level
- Comparing the Instruments to the View Outside
- Learning About Heading
- Learning About Airspeed and Altitude
- Learning About Slow Flight

II. Airworthiness of the Airplane

- Certificates and Documents
- Equipment Required for Flight
- Required Inspections
- Special Flight Permits
- Basic Airplane Maintenance

4) AIRPLANE ENGINES AND SYSTEMS

Objectives: You will learn how your airplane engine works and how to operate the airplane systems to your advantage.

I. Engine and Propeller

- How the Engine Works
- How the Engine Gets Air and Fuel
- How Magnetos Work
- Detonation and Preignition
- How the Propeller Works

II. Airplane Systems

- The Fuel, Oil and Hydraulic Systems
- The Electrical System
- The Environmental System

FLIGHT SCENARIOS

YOUR FIRST FLIGHT

CONTROLLING THE AIRPLANE

INCREASING AWARENESS

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Your First Flight

Objective:
Introduce new terms, preflight procedures, ground operations, basic aircraft control and postflight procedures
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
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
Conduct normal checklist procedures for all appropriate phases of flight with instructor input
Risks (real or simulated):
Traffic

New this scenario:
Safety practices and procedures
Study material and habits
Preflight inspection
Checklist usage
Operation of systems
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
Normal takeoff and climb – DEMO
Level off
Use of trim
Straight-and-level flight
Area familiarization
Collision avoidance
Stability demo *(yaw-pitch-roll)*
Climbs and descents *(note aircraft attitude for V_Y)*
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

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.
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
How to get there:
Pilotage
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.
Risks (real or simulated):
Traffic

New this scenario:
Risk management
Cockpit management
Left turning tendencies
Aileron/Rudder coordination exercise
(30° bank side-to-side keeping the nose at one point on the horizon)
Constant airspeed climbs and descents
(note V_X, V_Y, and cruise climb attitudes)
Climbing and descending turns
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

Improving your skills:
Preflight inspection
Checklist usage
Operation of systems
Engine starting and warm-up
Positive exchange of flight controls
Runway incursion avoidance
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

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.
Where to go:
A point within 30 minutes flight time that is assigned by your instructor before the flight
How to get there:
Pilotage
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.
Risks (real or simulated):
Pilot fatigue

New this scenario:
Single-pilot resource management (SRM)
Task management
Maneuvering during slow flight
Power-off stalls (*imminent*)

Improving your skills:
Preflight inspection
Risk management
Cockpit management
Checklist usage
Operation of systems
Engine starting and warm-up
Positive exchange of flight controls
Runway incursion avoidance
Taxiing
Engine run-up
Before takeoff check
Normal takeoff and climb - DEMO
Left turning tendencies
Aileron/Rudder coordination exercise
(30° bank side-to-side keeping the 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

Phase 1 Ground Training Checklist

*****All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Safety practices and procedures			
Study material and habits			
Preflight inspection			
Checklist usage			
Operation of systems			
Single-pilot resource management (SRM)			
Risk management			
Task management			
Runway incursion avoidance			
Normal takeoff and climb – instructor will demonstrate in flight			
Maneuvering during slow flight			
Power-off stalls (imminent)			
Normal approach and landing – instructor will demonstrate in flight			

Phase 1 Proficiency Checklist

*****All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Task management *Prioritizes and selects the most appropriate tasks with assistance*			
Risk management *Is able to identify any problem, analyze the information and make an informed decision with assistance*			
Preflight procedures			
Preflight inspection *Can perform a safe preflight inspection without instructor assistance*			
Cockpit management *Organizes the cockpit, has easy access to the checklist and utilizes items such as a kneeboard, paper and pen/pencil to record information*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Location of fire extinguisher *Confirms location and is able to use if necessary*			
Doors and safety belts *Can demonstrate the operation of doors and safety belts during a passenger briefing*			
Engine starting and warm-up *Uses checklist, clears the area before cranking and sets to 1000 RPM after starting*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has official control of the airplane*			
Runway incursion avoidance *Uses airport diagram, aware of hot spots, records taxi clearance*			
Taxiing *Taxis at a fast-walking pace/slow-jog, does not ride the brakes*			
Engine run-up *Follows checklist, looks outside to confirm parking brake is holding during run-up*			
Before takeoff check *Follows checklist*			

Phase 1 Proficiency Checklist continued

In-flight			
Left turning tendencies *Applies rudder correction during climb to maintain coordinated flight*			
Climbs and descents *Uses proper techniques and power settings*			
Constant airspeed climbs and descents *Utilizes a constant power setting and uses pitch to control airspeed*			
Climbing and descending turns *Uses proper rudder/control wheel inputs to maintain coordinated flight*			
Level off *Sets pitch, applies power as appropriate and then trims as appropriate*			
Use of trim *Uses trim after desired pitch and power settings are attained*			
Straight-and-level flight *Uses outside references (horizon and wingtips) to confirm*			
Area familiarization *Is able to identify local landmarks and reporting points*			
Collision avoidance *Looks and lifts wing before turning, knows of possible congestion and collisions hazards around local airport reporting points and navigation aids*			
Stability demo (yaw-pitch-roll) *Observes the stability of the airplane if displaced*			
Aileron/Rudder coordination exercise *30° bank side to side while keeping the nose level to the horizon on a specific point through the coordinated use of rudder and aileron inputs*			
Medium banked turns *Altitude (+/- 250 feet), heading (+/- 20°), airspeed (+/- 10 knots), bank (+/- 10°)*			
Turn coordination *Utilizes rudder to make coordinated turns*			
Back pressure in a turn *Uses back pressure during turns to maintain altitude, releases back pressure when rolling out of the turn to prevent a gain in altitude*			
Turn entry and roll out *Smoothly applies rudder and control wheel pressures as necessary, leads the roll out by ½ the bank angle*			
Maneuvering during slow flight *Is able to get into and out of slow flight using the proper techniques, altitude (+/- 250 feet)*			
Power-off stalls (imminent) *Recovers at the stall warning*			
Descents with/without flaps *Performs descents with/without flaps while noting the different descent rates*			
Power-off descent at best glide airspeed *Maintains airspeed (+/- 10 knots), notes descent rate and glide distance*			
Descent at approach airspeed in landing configuration *Maintains airspeed (+/- 10 knots), notes pitch attitude*			
Postflight procedures			
After landing, parking and securing *Completes appropriate checklists*			

Phase 1 completion standards:

You have completed Phase 1 when you

- 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

INSTRUCTOR NOTES:

INSTRUCTOR NOTES:

PHASE 2: Improving Control

Phase Objective: During this phase you will develop the skills necessary to

- Analyze basic flight conditions and recognize any hazards for a go/no-go decision
- Control the airplane in all basic ground and flight operations with minimal instructor assistance
- Engage in effective radio communications
- Perform unassisted takeoffs
- Compensate for wind drift
- Recognize and recover from stalls

Web-based KNOWLEDGE

SINGLE-PILOT RESOURCE MANAGEMENT (SRM)
USING YOUR AIRPORT AND RADIO COMMUNICATIONS
THE AIRPORT ENVIRONMENT AND CORRECTING FOR WIND
STALLS, TAKEOFFS AND LANDINGS EXPLAINED

1) SINGLE-PILOT RESOURCE MANAGEMENT (SRM)

Objectives: You will learn about single-pilot resource management (SRM) and how to practically apply these principles during your flights.

I. Single-Pilot Resource Management (SRM)
- Task Management (TM)
- Automation Management (AM)
- Risk Management (RM) and Aeronautical Decision Making (ADM)
- Situational Awareness (SA)
- Controlled Flight Into Terrain (CFIT) Awareness

II. Practical Application of SRM
- The 5 Ps
- PAVE and CARE Checklists
- Personal Minimums
- Cockpit Management

III. Basic Aviation Physiology
- Understanding Hypoxia, Dehydration and Other Physical Factors
- How Alcohol and Drugs Affect Flying

2) USING YOUR AIRPORT AND RADIO COMMUNICATIONS

Objectives: You will learn to operate at both towered and non-towered airports.

I. Using Your Airport
- Coordinated Universal Time
- Runway and Taxiway Markings
- Progressive Taxi Directions
- Ramp Hand Signals

II. Radio Communications
- Radios
- Safety Equipment
- Communicating by Radio
- Composing What to Say
- Lost Communications
- Landing With a Radio Failure

3) THE AIRPORT ENVIRONMENT AND CORRECTING FOR WIND

Objectives: You will learn more about the airport environment, how to know which direction the wind is blowing and how to correct for it.

I. Learning About Ground Operations
- Wind Direction and Runway to Use
- Using Flight Controls While Taxiing

II. Flying Around Airports
- The Traffic Pattern Around the Airport
- Entering and Departing the Traffic Pattern
- Communicating Your Intentions and Requests
- Flying Safely in the Traffic Pattern

III. Correcting for Wind
- Flying the Desired Path
- Ground Reference Maneuvers

4) STALLS, TAKEOFFS AND LANDINGS EXPLAINED

Objectives: You will learn how to control the airplane for takeoffs and landings, even when the wind is not blowing directly down the runway, and when to try again for a better landing.

I. Normal and Crosswind Takeoffs and Landings
- Takeoffs
- Landings
- Crosswind Landings
- Visual Glide Path Indicators
- Corrections While Landing
- Going Around

II. Learning About Stalls
- Stall Theory
- Mastering the Stall
- Stall Situations
- Spin Awareness

FLIGHT SCENARIOS

RECOGNIZING AND RECOVERING FROM STALLS

CORRECTING FOR THE WIND IN FLIGHT

MAKING STEEP TURNS

PROGRESS CHECK

Flight scenarios will be repeated as necessary to reach the desired proficiency

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
Where to go:
The vicinity of the highest obstacle in a 20-nm radius, keeping the appropriate legal distance (vertical and horizontal) from the obstacle and then to suitable airspace for the maneuvers
How to get there:
Pilotage
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 20nm radius of your home airport. The deadline for the photography is tomorrow morning at 9am.
Risks (real or simulated):
Traffic, flying at or near stall speed, flying near a high obstacle

New this scenario:
Stall/spin awareness
Power-off stalls (landing configuration)
Power-on stalls (*imminent*- takeoff configuration)
Roll control at high angles of attack (rudder usage)
Use of rudder in stall recovery
Use of power in stall recovery
Radio communications
Crosswind taxi
Normal/crosswind takeoff and climb
Traffic pattern entry and departure procedures
Normal/crosswind approach and landing

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

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
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
How to get there:
Pilotage
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.
Risks (real or simulated):
Traffic, terrain

New this scenario:
Crabbing
Ground reference maneuver
Sideslip
Forward slip
Power-on stall (climb configuration)

Improving your skills:
Preflight inspection
Checklist usage
Operations of systems
Radio communications
Positive exchange of flight controls
Runway incursion avoidance
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

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.
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:
None
Possible malfunctions:
Radio failure
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.

Risks (real or simulated):
Traffic, increased load factor and stall speed during steep turns, pilot disorientation during flight by reference to instruments only

New this scenario:
Aeronautical decision making
Steep turns
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.**

Improving your skills:
Preflight inspection
Stall/spin awareness
Single-pilot resource management (SRM)
Checklist usage
Operations of systems
Radio communications
Positive exchange of flight controls
Runway incursion avoidance
Crosswind taxi
Normal/crosswind takeoff and climb
Use of trim
Collision avoidance
Turn coordination
Power-off stalls (landing configuration)
Power-on stalls (climb configuration)
Descent at approach speed in landing configuration
Crabbing
Sideslip
Traffic pattern entry and departure procedures
Normal/crosswind approach and landing
After landing, parking and securing

Phase 2 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Stall/spin awareness			
Power-off stalls (landing configuration)			
Power-on stalls (*imminent*- takeoff configuration)			
Roll control at high angles of attack (rudder usage)			
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 (IR)			
Normal approach and landing			

Phase 2 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Aeronautical decision making *Uses a systematic approach to consistently determine the best course of action for the circumstances*			
Preflight procedures			
Preflight inspection *Performs a safe preflight inspection without instructor assistance*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Operation of systems *Effectively operates the systems in the airplane*			
Radio communications *Makes most basic radio calls with minimal assistance*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has official control of the airplane*			
Runway incursion avoidance *Uses best procedures for operational planning and maintaining situational awareness during taxi*			
Crosswind taxi *Applies appropriate aileron and elevator deflections*			

Phase 2 Proficiency Checklist continued

In-flight			
Normal/crosswind takeoff and climb *Maintains takeoff power and V_Y (+10/-5 knots), applies rudder correction for yaw and aileron correction for wind, can perform an unassisted takeoff*			
Use of trim *Sets trim after setting pitch and power*			
Collision avoidance *Lifts wing and looks before turning, maintains a visual scan and awareness for other traffic*			
Aileron/Rudder coordination exercise *Uses decisive rudder and aileron inputs to maintain the nose at one spot on the horizon while banking back and forth*			
Turn coordination *Uses appropriate rudder pressures entering, in, and exiting a turn*			
Basic instrument maneuvers (IR) *Maintains altitude (+/- 200 feet), heading (+/- 20°), airspeed (+/- 10 knots), bank (+/- 10°)*			
Maneuvering during slow flight *Maintains altitude (+/- 200 feet), heading (+/- 20°), airspeed (+10/-5 knots), bank (+/- 10°)*			
Power-off stall (landing configuration) *Recovers using proper pitch and power inputs, maintains directional control, recovers within 400 feet*			
Power-on stall (takeoff configuration) *Uses rudder to control roll at high angles of attack, promptly recovers with use of pitch and power*			
Steep turns *Maintains altitude (+/- 200 feet), heading (+/- 20°), airspeed (+10/-10 knots), bank (+/- 10°)*			
Forward slip *Power to idle, applies ailerons into the wind and full opposite rudder, levels off at the desired altitude*			
Ground reference maneuver *Maintains proper wind correction techniques, altitude (+/- 200 feet), airspeed (+/- 10 knots)*			
Descent at approach airspeed in landing configuration *Maintains airspeed (+10/-5 knots)*			
Crabbing *Uses crab angle into wind to maintain a ground track*			
Sideslip *Uses a sideslip into the wind to maintain a ground track (ailerons into the wind, opposite rudder)*			
Traffic pattern entry and departure procedures *Correctly enters and exits the traffic pattern at the traffic pattern altitude, altitude (+/- 150 feet)*			
Normal/crosswind approach and landing *Uses appropriate pitch and power settings, applies decisive wind correction as needed, maintains airspeed (+10/-5 knots), lands with instructor assistance*			
Postflight procedures			
After landing, parking and securing *Completes appropriate checklists, taxis the airplane back to parking and properly secures it*			
Progress Check *Satisfactorily completes the *Progress Check**			

Phase 2 completion standards:

You have completed Phase 2 when you

- 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

INSTRUCTOR NOTES:

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
Where to go:
A point within 30 minutes that is suitable airspace free from obstructions and dense traffic
How to get there:
Pilotage
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
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

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
Runway incursion avoidance
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

Phase 2 **Progress Check**

Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Preflight procedures			
Preflight inspection *Can perform a safe preflight inspection without instructor assistance*			
Stall/spin awareness *Knows spin recovery procedures*			
Checklist usage *Uses checklist as a habit and completes all checklists*			
Operation of systems *Can explain and operate most airplane systems*			
Radio communications *Can effectively communicate over the radio using minimal instructor assistance*			
Positive exchange of flight controls *Uses the 3-part verification system to confirm who has official control of the airplane*			
Runway incursion avoidance *Uses best procedures for operational planning and to maintain situational awareness during taxi*			
Crosswind taxi *Applies appropriate aileron and elevator deflections*			
In-flight			
Normal/crosswind takeoff and climb *Maintains takeoff power and V_Y (+10/-5 knots), applies rudder correction for yaw and aileron correction for wind, can perform an unassisted takeoff*			
Use of trim *Sets trim after setting pitch and power*			
Collision avoidance *Lifts wing and looks before turning, maintains a visual scan and awareness for other traffic*			
Turn coordination *Uses appropriate rudder pressures entering, in, and exiting a turn*			
Maneuvering during slow flight *Altitude (+/- 200 feet), heading (+/- 20°), airspeed (+10/-5 knots), bank (+/- 10°)*			
Stall *Uses rudder to control roll at high angles of attack, promptly recovers with use of pitch and power*			
Crabbing *Uses crab angle into wind to maintain a ground track*			
Sideslip *Uses a sideslip into the wind to maintain a ground track (ailerons into the wind, opposite rudder)*			
Normal/crosswind approach and landing *Uses appropriate pitch and power settings, applies decisive wind correction as needed, airspeed (+10/-5 knots), lands with instructor assistance*			
Postflight procedures			
After landing, parking and securing *Completes appropriate checklists, taxis the airplane back to parking and properly secures*			

*Phase 2 *Progress Check* completion standards:*

You have completed the Phase 2 **Progress Check** when you

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

INSTRUCTOR NOTES:

PHASE 3: Takeoffs and Landings

Phase Objective: During this phase you will develop the skills and confidence necessary to:

- Compute takeoff and landing data
- Practice and perform safe landings with minimal instructor assistance
- Compensate for wind drift without instructor assistance
- Perform more effective and efficient radio communications
- Decide when it is necessary to reject a landing attempt and go around for another try

Web-based KNOWLEDGE

WEATHER AND WEATHER BRIEFINGS
AIRPLANE PERFORMANCE AND LIMITATIONS
LEARNING TO LAND
CHARTS, PUBLICATIONS, HAZARDS AND EMERGENCIES

1) WEATHER AND WEATHER BRIEFINGS

Objectives: You will learn about meteorology. You will learn the causes of various weather conditions, frontal systems, and hazardous weather phenomena. You will also learn how to obtain a weather briefing and recognize critical weather situations so you can avoid them.

I. Basic Weather Theory
- What Makes Weather
- The Atmosphere
- Wind
- Moisture

II. Weather Patterns
- Stable and Unstable Air
- Air Masses and Fronts

III. Weather Hazards
- Fog
- Thunderstorms
- Wind Shear and Microbursts
- Turbulence
- Frost and Ice

IIII. Basic Sources of Weather Information
- Telephone Weather Briefings
- Online Weather Resources

2) AIRPLANE PERFORMANCE AND LIMITATIONS

Objectives: You will learn how to compute takeoff and landing distances, the factors affecting your airplane's performance and how to make sure you are within the weight and balance limitations for every flight.

I. Predicting Performance
- Factors Affecting Performance
- More Factors Affecting Performance
- Performance Speeds and Runway Conditions
- The Pilot's Operating Handbook (POH)
- Using Performance Charts

II. Airplane Loading
- Airplane Weight and Balance
- Methods of Weight and Balance Control

3) LEARNING TO LAND

Objectives: You will learn about common mistakes made while learning to land and how to safely correct for them if experienced.

I. Faulty Approaches and Balked Landings

- Final Approach
- Roundout
- Touchdown
- Correcting for Crosswinds

4) CHARTS, PUBLICATIONS, HAZARDS AND EMERGENCIES

Objectives: You will learn how to use aeronautical charts and FAA publications. You will also learn how to properly handle emergency situations.

I. VFR Aeronautical Charts

- Locating Your Position Using Latitude and Longitude
- Airport Symbols
- Obstructions and Visual Checkpoints
- VFR Chart Types

II. FAA Publications

- Chart Supplement
- Notices to Airmen (NOTAMS)
- FAA Reference Materials

III. Hazards

- Wake Turbulence Avoidance
- Wind Shear Awareness and Recovery procedures

IV. Emergencies

- Emergencies in Flight
- Basic Engine Failure Procedures
- Emergency Approach and Landing
- Engine Failure During and After Takeoff
- Fires
- Emergency Equipment and Survival Gear

FLIGHT SCENARIOS

TAKEOFFS AND LANDINGS

CROSSWIND TAKEOFFS AND LANDINGS

MORE TAKEOFFS AND LANDINGS

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Takeoffs and Landings

Objective:
Build skill in performing takeoffs, landings and traffic pattern operations
Where to go:
An airport within 30 minutes flight time that is free from obstructions and dense traffic
How to get there:
Pilotage
Possible deviations:
Upon arrival at the airport, the winds are reporting stronger than they were forecasted
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.
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

New this scenario:
Situational awareness
Weight and balance
Performance charts
Traffic patterns
Go-around/rejected landings

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

SCENARIO 2: Crosswind Takeoffs and Landings

Objective:
Practice your wind correction procedures for crosswind takeoffs and landings
Where to go:
An airport within 30 minutes flight time that has a crosswind runway available
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.
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.
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

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 climbs
Traffic patterns
Forward slip
Crabbing
Sideslip
Normal/crosswind approach and landings
Go-around/rejected landing
After landing, parking and securing

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
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
Possible malfunctions:
Flap-motor failure
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.
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

New this scenario:
System and equipment malfunctions
Simulated engine failure *(at altitude)*
Simulated engine failure in a V_Y climb attitude *(at least 3,000 feet AGL)*
Simulated engine failure in a V_X climb attitude *(at least 3,000 feet AGL)*
Note: 'Simulated engine failures in a climb' may be followed by a gliding 180° turn to demonstrate the altitude loss in a simulated engine failure after takeoff.
Emergency descent

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

Phase 3 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Weight and balance			
Performance charts			
Traffic patterns			
Go-around/rejected landings			
System and equipment malfunctions			
Simulated engine failure (at altitude)			
Simulated engine failure in a V_Y climb *(at least 3,000' AGL)*			
Simulated engine failure in a V_X climb *(at least 3,000' AGL)*			
Emergency descent			

Phase 3 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Risk management *Is able to recognize risks and uses good judgment to reduce associated risks*			
Situational awareness *Maintains an accurate perception and understanding of surrounding factors and flight conditions*			
Preflight procedures			
Preflight inspection *Performs a safe preflight inspection without instructor assistance*			
Weight and balance *Performs a proper weight and balance calculations*			
Performance charts *Utilizes performance charts to determine takeoff and landing distance and crosswind components*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Radio communications *Can effectively communicate with minimal assistance, understands pilot/controller terminology*			
In-flight			
Normal/crosswind takeoff and climb *Maintains V_Y (+10/-5 knots), applies rudder correction for yaw and aileron correction for wind*			
Collision avoidance *Lifts wing and looks before turning, maintains a visual scan and awareness for other traffic*			
Maneuvering during slow flight *Maintains altitude (+/- 150 feet), heading (+/- 15°), airspeed (+10/-0 knots), bank (+/- 10°)*			
Stall *Uses rudder to control roll at high angles of attack, promptly recovers with use of pitch and power*			

Phase 3 Proficiency Checklist continued

System and equipment malfunctions *Uses appropriate checklists and manages risk*			
Simulated engine failure *(at altitude)* *Has emergency items memorized, performs and then confirms with the checklist, maintains best glide airspeed +10/-5 knots*			
Simulated engine failure in a V_Y climb attitude *(at least 3,000 feet AGL)* *Promptly pitches for best glide airspeed and maintains +10/-5 knots, uses checklist as appropriate*			
Simulated engine failure in a V_X climb attitude *(at least 3,000 feet AGL)* *Promptly pitches for best glide airspeed and maintains +10/-5 knots, uses checklist as appropriate*			
Emergency descent *Airspeed and configuration as appropriate not to exceed V_{NE}, V_{NO}, V_A or V_{FE}*			
Traffic patterns *Knows traffic pattern altitude, maintains orientation with runway in use, uses appropriate power and flap setting, altitude +/- 150 feet, and airspeed +/- 10 knots*			
Crabbing *Corrects for wind drift using the crab method*			
Sideslip *Corrects for wind drift using a sideslip (also known as the wing-low method)*			
Forward slip *Uses idle power, uses full rudder deflection, maintains ground track, airspeed +/- 10 knots*			
Go-around/rejected landing *Makes the timely decision to go around, applies full power, pitches for a safe airspeed and retracts flaps to a takeoff setting, informs tower as appropriate*			
Normal/crosswind approach and landing *Stabilized approach (+10/-5 knots), touches down safely with instructor assistance*			
Postflight procedures			
After landing, parking and securing *Completes appropriate checklists, taxis the airplane back to parking and properly secures it*			

Phase 3 completion standards:

You have completed Phase 3 when you

- 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 3: Takeoffs and Landings

INSTRUCTOR NOTES:

PHASE 4: Preparing for Solo Flight

Phase Objective: During this phase you will further develop your previously learned skills to:

- Consistently perform safe takeoffs and landings without instructor assistance
- Recognize and correctly apply emergency memory items and checklists as appropriate
- Be able to operate the airplane safely for solo operations
- Pass the Pre-Solo Written Knowledge Test

Web-based KNOWLEDGE

AIRSPACE
AVIATION RULES AND TERMINOLOGY
FLIGHT INSTRUMENTS AND COCKPIT DISPLAYS
GPS, LOST PROCEDURES, USING FLIGHT INSTRUMENTS

1) AIRSPACE

Objectives: You will learn how the airspace system is put together, so that no matter where you fly, you will know and understand it.

I. Airspace
- Basics of the Airspace System
- Class G Airspace
- Class E Airspace
- Class D Airspace
- Class C Airspace
- Class B Airspace
- Class A Airspace

II. Other Airspace
- Special Use Airspace
- Other Airspace Areas
- Temporary Flight Restrictions

III. Airspace Rules
- Speed Limits
- Weather Minimums

2) AVIATION RULES AND TERMINOLOGY

Objectives: You will learn aviation terms and rules so that you can be sure to be safe and legal at all times.

I. Rules Governing Pilots
- Pilot and Airplane Certification
- Medical Certification
- Student Pilot, Sport Pilot, and Private Pilot Privileges
- Staying Current and Qualified
- Before You Fly

II. Rules For Flight
- Right-of-way Rules
- Collision Avoidance
- Flying at High or Low Altitude
- Air Traffic Control and LAHSO

III. Rules for Reporting Accidents and Incidents
- Accident and Incident Notification

3) FLIGHT INSTRUMENTS AND COCKPIT DISPLAYS

Objectives: You will learn how the cockpit displays and flight instruments work. In addition, you will learn how to bring what you see outside the window inside and fly the airplane by reference to the flight display and instruments only.

I. Primary Flight Displays
- AHRS and Air Data Computer
- Attitude Direction Indicator
- Horizontal Situation Indicator
- Engine and System Indicators
- Map Display
- Annunciations and Messages

II. Multifunction Displays
- Engine and System Indicators
- Map Display

III. Gyro-Based Instruments
- Basic Gyroscopic Principles
- Gyro-Based Instruments at Work

IV. Basic Flight Instruments
- Pitot-Static Instruments
- Pitot-Static System Errors
- Altimeter Errors

V. Magnetic Compass
- Magnetic Compass Principles
- Compass Errors
- Using the Magnetic Compass

4) GPS, LOST PROCEDURES, AND EMERGENCY INSTRUMENT SKILLS

Objectives: You will learn that there are several ways to determine your course while flying and how to navigate your airplane using GPS to find the best route. You will also see how to recover from some situations in the clouds or in reduced visibility that you might encounter.

I. Advanced Navigation
- Global Positioning System (GPS)
- Getting There With GPS

II. Lost Procedures
- Climb/Call/Get Help
- Using Radios to Find Your Location

III. Recovering from Unusual Attitudes
- Using Emergency Instrument Skills

KNOWLEDGE

PRE-SOLO BRIEFING- Pre-Solo Knowledge Test

PRE-SOLO BRIEFING and Pre-Solo Knowledge Test

Objectives: To ensure you have sufficient knowledge to proceed to Phase 5 and solo

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 communication and ATC light signals
Emergency procedures (including carburetor icing, if appropriate)
Collision avoidance
Practice area location(s)
Traffic pattern
Solo flight restrictions
Required certificate and logbook endorsements

FLIGHT SCENARIOS

USING YOUR FLIGHT DISPLAY / INSTRUMENTS TO CONTROL THE AIRPLANE

HANDLING THE UNEXPECTED

GETTING READY FOR SOLO FLIGHT

Flight scenarios will be repeated as necessary to reach the desired proficiency

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
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.
Risks (real or simulated):
Encountering marginal weather with decreasing visibility, pilot disorientation, failure to communicate with ATC, flying near the ground

New this scenario:
Controlled flight into terrain awareness
Straight-and-level flight (IR)
Constant airspeed climbs and descents (IR)
Turns to a heading (IR)
180° turn (IR)
Emergency communications and ATC resources
Failed radio communications and ATC light signals
GPS direct-to/nearest airport functions (*if installed)*

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

SCENARIO 2: Handling the Unexpected

Objective:
Gain proficiency in handling unexpected and emergency situations
Where to go:
A towered or non-towered (which ever 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.
Possible malfunctions:
Engine failure, radio failure, position lights have been noted as “inop”
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.
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

New this scenario:
Wind shear awareness and recovery procedures
Wake turbulence avoidance
Emergency approach and landing (simulated)
Engine failure during takeoff roll (simulated)

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 descent
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

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
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
Possible malfunctions:
Engine failure, carburetor icing, flight display/instrument failure, radio failure, alternator failure
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.
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

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

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
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 descent
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

Phase 4 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
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 (including carburetor icing, if appropriate)			
Collision avoidance			
Practice area locations			
Traffic pattern			
Solo flight restrictions			
Required certificate and logbook endorsements			
Controlled flight into terrain awareness			
180° turn (IR)			
Emergency communications and ATC resources			
GPS direct-to/nearest airport functions (*if installed)*			
Wind shear awareness and recovery procedures			
Wake turbulence avoidance			
Emergency approach and landing (simulated)			
Engine failure during takeoff roll (simulated)			
Recovery from unusual flight attitudes (IR)			

Phase 4 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*			
Controlled flight into terrain awareness *Demonstrates awareness of relation to obstacles and terrain*			
Task management *Prioritizes and selects the most appropriate tasks*			
Risk management *Maintains situational awareness, problem recognition and good judgment to reduce associated risks*			

Phase 4 Proficiency Checklist continued

Preflight procedures			
Preflight inspection *Performs a safe preflight inspection without instructor assistance*			
Weight and balance *Performs a proper weight and balance calculation*			
Performance charts *Utilizes performance charts to determine takeoff and landing distance and crosswind components*			
Checklist usage *Uses checklist for preflight and all phases of flight*			
Emergency equipment and survival gear *Carries sufficient equipment and gear for the environmental conditions*			
Positive exchange of flight controls *Uses a 3-point verification system to confirm control of the airplane*			
Crosswind taxi *Uses proper crosswind corrections while taxiing*			
In-flight			
Normal/crosswind takeoff and climb *Smooth, unassisted takeoff, airspeed V_Y+/-5 knots*			
Use of trim *Uses trim as appropriate, applies after setting desired pitch and power*			
Collision avoidance *Maintains situational awareness in relation to traffic in the area*			
Maneuvering during slow flight *Maintains altitude (+/- 150 feet), heading (+/- 10°), airspeed (+10/-0 knots), bank (+/- 10°)*			
Spin awareness and recovery procedures *Knows spin recovery procedures and can recite in flight*			
Power-off stall (landing configuration) *Establishes a stabilized descent at approach airspeed in the landing configuration, simulates stall at desired altitude, heading (+/- 10°), does not lose more than 400 feet during stall recovery*			
Power-on stall (takeoff/climb configuration) *Demonstrates using 65% available power, recognizes and recovers promptly by simultaneously reducing angle of attack and increasing power as appropriate*			
Steep turns *Maintains altitude (+/- 150 feet), heading (+/- 15°), airspeed (+/- 10 knots), bank (+/- 10°)*			
Basic instrument maneuvers (IR) *Maintains altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			
180° turn (IR) *Maintains altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			
Recovery from unusual flight attitudes (IR) *Uses coordinated control inputs to return to stabilized flight*			
GPS direct-to /nearest airport functions (VR-IR) *(if installed)* *Can operate the GPS without assistance*			
Emergency communications and ATC resources *Can utilize the radio for emergency communications and ATC resources*			
Emergency approach and landing (simulated) *Establishes best glide airspeed +10/-5 knots, picks the best landing site, completes and verifies the appropriate checklist*			
Emergency descent *Airspeed and configuration as appropriate not to exceed V_{NE}, V_{NO}, V_A or V_{FE}*			
Engine failure during takeoff roll (simulated) *Closes the throttle to idle, applies maximum aerodynamic breaking, communicates as appropriate*			
System and equipment malfunctions *Recognizes, analyzes and uses the appropriate checklist*			
Failed radio communications and ATC light signals *Can input appropriate transponder code and interpret ATC light signals*			
Turns around a point *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			

Phase 4 Proficiency Checklist continued

S-turns *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Rectangular course *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Traffic patterns *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Forward slip to a landing *Maintains ground track, maintains crosswind correction and directional control throughout*			
Go around/rejected landing *Makes a timely decision to discontinue the approach to landing, applies takeoff power immediately and transitions to climb pitch attitude for V_Y and maintains V_Y +10/-5 knots*			
Normal/crosswind approach and landing *Consistently and safely controls the airplane using proper wind correction techniques, safety is never in question*			
Postflight procedures			
After landing, parking and securing *Taxis, parks and secures the airplane without assistance*			

Phase 4 completion standards:

You have completed Phase 4 when you:

- 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/non-towered airports
- Recognize and correctly apply emergency memory items and confirm using a checklist
- Consistently perform safe takeoffs and landings without instructor assistance
- Have reviewed the Phase Progress Report with your 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)].

_____

INSTRUCTOR NOTES:

PHASE 5: First Solo

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

Phase Objective: During this phase you will

- Demonstrate that you can safely operate the airplane for your first solo.
- Fly your first solo flight

Web-based KNOWLEDGE

SOLO FLIGHT

1) SOLO FLIGHT
Objectives: You will learn what you can and can't do during solo operations.
I. Solo Flight
Solo Flight

KNOWLEDGE

***PROGRESS CHECK*- Oral quizzing**

***PROGRESS CHECK*- Oral Quizzing**
Regulations applicable to student pilots:
-Part 61
-Part 91
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
Runway incursion avoidance

FLIGHT SCENARIOS

PROGRESS CHECK

YOUR FIRST SOLO FLIGHT

YOUR SECOND SOLO FLIGHT

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: *Progress Check*

Objective:
Demonstrate to a designated instructor that you can safely fly the airplane solo
Where to go:
Suitable airspace free of hazards to demonstrate the appropriate maneuvers; the airport chosen by your instructor for your solo flight
How to get there:
Pilotage, GPS
Possible deviations:
None
Possible malfunctions:
Engine failure, carburetor icing, flight display/instrument failure, radio failure, alternator failure
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
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

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
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) *(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

Phase 5 **Progress Check*- Oral*

Desired outcome for all tasks for the Progress Check is "Explain"	Instruction Given	Describe	Explain
Regulations applicable to student pilots (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			
Wind shear awareness and recovery procedures			
Wake turbulence avoidance			

Phase 5 **Progress Check*- Flight*

Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*			
Task management *Prioritizes and selects the most appropriate tasks*			
Risk management *Manages and mitigates risks*			
Situational awareness *Maintains an accurate perception and understanding of surrounding factors and flight conditions*			
Preflight procedures			
Preflight inspection *Performs a safe preflight inspection without assistance*			
Weight and balance *Calculates weight and CG for takeoff and landing*			
Performance charts *Computes takeoff and landing performance*			
Checklist usage *Utilizes checklists as a habit, verifies checklist if done from memory*			
Radio communications *Performs effective radio communications without assistance*			
Runway incursion avoidance *Uses best procedures for operation planning and maintaining situational awareness during taxi*			
Crosswind taxi *Corrects as necessary*			
In-flight			
Normal/crosswind takeoff and climb *Maintains takeoff power and V_Y (+10/-5 knots)*			
Use of trim *Uses trim as appropriate, applies after setting desired pitch and power*			
Collision avoidance *Maintains situational awareness in relation to traffic in the area*			

Phase 5 **Progress Check*- Flight* continued

Maneuvering during slow flight *Maintains altitude (+/- 150 feet), heading (+/- 10°), airspeed (+10/-0 knots), bank (+/- 10°)*			
Stall *Recognizes and recovers promptly by simultaneously reducing the angle of attack and increasing power*			
Spin awareness and recovery procedures *Knows procedures for avoidance and recovery from unintentional spins*			
Basic instrument maneuvers (IR) *Maintains altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			
GPS (direct-to /nearest airport functions) (IR) (if installed) *Can operate the GPS without assistance*			
180° turn (IR) *Maintains altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			
Emergency operations *Applies memory items as necessary, confirms actions with checklist, analyzes and mitigates risks*			
Ground reference maneuver *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Traffic patterns *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Go around/rejected landing *Makes a timely decision to discontinue the approach to landing, applies takeoff power immediately and transitions to climb pitch attitude for V_Y and maintains V_Y +10/-5 knots*			
Normal/crosswind approach and landing *Consistently and safely controls the airplane using proper wind correction techniques*			
Postflight procedures			
After landing, parking and securing *Taxis, parks and secures the airplane without assistance*			

*Phase 5 *Progress Check* completion standards:*

You have completed the Phase 5 **Progress Check** when you

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

_____

INSTRUCTOR NOTES:

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
Where to go:
The airport chosen by your instructor for your solo flight
How to get there:
Pilotage, GPS
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.
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

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

Improving your skills:
Appropriate logbook and certificate endorsements
Preflight inspection
Single-pilot resource management (SRM)
Weight and balance
Performance charts
Runway incursion avoidance
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

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.
Where to go:
Practice area first, then the airport chosen by your instructor for your second solo flight 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
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

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

Phase 5 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/Decide
Progress Check *Satisfactorily passes the *Progress Check**			
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*			
Preflight procedures			
Preflight inspection *Performs a safe preflight inspection without assistance*			
Appropriate logbook and certificate endorsements *Receives appropriate solo endorsements*			
Weight and balance *Computes weight and CG for takeoff and landing*			
Performance charts *Computes takeoff and landing performance*			
Checklist usage *Utilizes and verifies checklist*			
Radio communications *Performs effective radio communications without assistance*			
Runway incursion avoidance *Uses best procedures for operation planning and maintaining situational awareness during taxi*			
Crosswind taxi *Appropriately corrects for crosswind during taxi*			
In-flight			
Normal/crosswind takeoff and climb *Maintains takeoff power and V_Y (+10/-5 knots)*			
Use of trim *Uses trim as appropriate, applies <u>after</u> setting desired pitch and power*			
Collision avoidance *Maintains situational awareness in relation to traffic in the area*			
Traffic patterns *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Go around/rejected landing (if necessary) *Makes a timely decision to discontinue the approach to landing, applies takeoff power immediately and transitions to climb pitch attitude for V_Y and maintains V_Y +10/-5 knots*			
Solo landings (to a full stop) *Safely completes three solo landings to a full stop*			
Postflight procedures			
After landing, parking and securing *Taxis, parks and secures the airplane without assistance*			

Phase 5 completion standards:

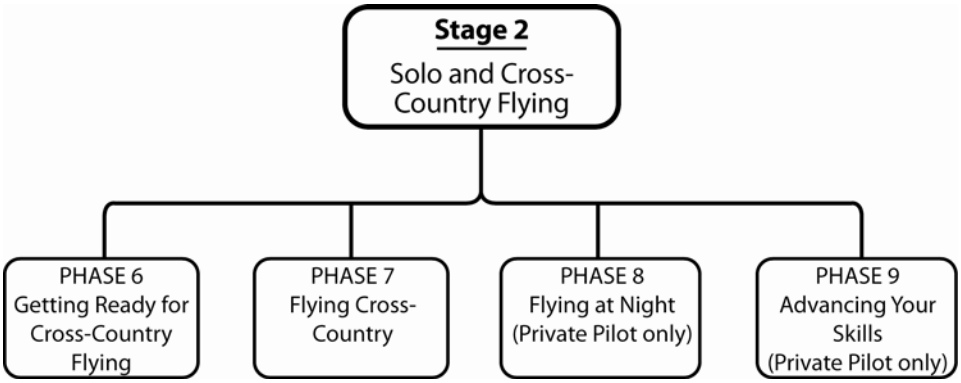
You have completed Phase 5 when you

- Consistently and safely control the airplane in all phases of flight by yourself 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 Check
- Successfully complete your first solo flight(s)

Stage 1, Phase 5: Solo Flight

INSTRUCTOR NOTES:

STAGE 2: Solo Flight and Cross-Country



Stage 2 consists of four phases:

- Getting Ready for Cross-Country Flying
- Flying Cross-Country
- Flying at Night *[Private Pilot only]*
- Advancing Your Skills *[Private Pilot only]*

Stage Objective: During this stage you will

- Learn the techniques to takeoff or land on a short or soft runway
- Enhance your ability to control the attitude of the airplane by instrument reference only
- Learn how to plan, conduct and safely fly cross-country trips using GPS, pilotage, dead-reckoning and radio navigation
- Take your first solo cross-country flight

PHASE 6: Getting Ready for Cross-Country Flying

Phase Objective: During this phase you will

- Complete your first solo flight beyond the pattern
- Learn short-field and soft-field takeoff and landing procedures
- Recognize wind shear and wake turbulence hazards and how to avoid them
- Be able to utilize your flight display and instruments to safely control the airplane in simulated instrument flight and to recover from unusual attitudes

PLEASE NOTE: **All scenarios will have the following items *removed* from the scenario** *as they are to be evaluated and performed every flight hereafter*

- Preflight inspection
- Checklist usage
- Performance charts
- Weight and balance
- Positive exchange of flight controls
- Radio communications
- Collision avoidance
- Normal/crosswind takeoffs and landings
- After landing, parking and securing

Web-based KNOWLEDGE

ADVANCED TAKEOFF AND LANDING TECHNIQUES
READING WEATHER REPORTS AND CHARTS

1) ADVANCED TAKEOFF AND LANDING TECHNIQUES

Objectives: You will learn the techniques to safely land on runways that are short or unpaved (soft).

I. Using Short or Soft Runways

- Short-Field Takeoff and Landing
- Soft-Field Takeoff and Landing

2) READING WEATHER REPORTS AND CHARTS

Objectives: You will learn how to interpret weather reports, forecasts, and charts so you can plan your flights without getting into trouble with the weather. In addition, you will see that you can obtain weather reports and forecasts from many different sources.

I. Printed Reports and Forecasts

- Aviation Routine Weather Reports (METARs)
- Terminal Aerodrome Forecasts (TAFs)
- Area Forecasts (FA)
- Winds and Temperatures Aloft Forecasts
- Radar Weather Reports
- In-flight Aviation Weather Advisories

II. Graphic Weather Products

- Surface Analysis Chart
- Weather Depiction Chart
- Low-Level Significant Weather Prog Chart
- Weather Radar Information
- Convective Outlook Chart

III. More Sources of Weather Information

- Supplemental and In-Flight Weather Services
- Cockpit Weather Displays

FLIGHT SCENARIOS

SOLO FLIGHT BEYOND THE PATTERN

USING SHORT OR SOFT-FIELD TECHNIQUES

USING ELECTRONIC NAVIGATION / INSTRUMENT FLIGHT

SOLO PRACTICE

Flight scenarios will be repeated as necessary to reach the desired proficiency

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
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 9pm tonight
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

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

SCENARIO 2: Using Short- or Soft-Field Techniques

Objective:
Learn short- and soft-field takeoff and landing techniques
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.
Risks (real or simulated):
Problems that can occur while flying slowly near the ground; appropriately correcting for the wind, landing in a confined area

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

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

SCENARIO 3: Using Electronic Navigation / Instrument Flight

Objective:
Advance your skills using electronic navigation and flying by instrument reference only, and practice lost procedures
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
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.
Risks (real or simulated):
Problems that can occur when encountering marginal weather, pilot disorientation, pressures to continue a flight in marginal weather

New this scenario:
Stall with a bank (not to exceed 20°)
Maneuvering during slow flight (IR)
Lost procedures
Navigation systems/facilities, and radar services (IR)

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)

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.
Risks (real or simulated):
Spotting traffic while performing solo maneuvers, communication in the airport traffic pattern, collision hazards while operating at low altitudes

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

Phase 6 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Short-field takeoff and climb			
Short-field approach and landing			
Soft-field takeoff			
Soft-field landing approach and landing			
Stall with a bank (not to exceed 20° of bank)			
Maneuvering during slow flight (IR)			
Lost procedures			
Navigation systems/facilities, and radar services (IR)			

Phase 6 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Situational awareness *Maintains an accurate perception and understanding of surrounding factors and flight conditions*			
Controlled flight into terrain awareness *Demonstrates awareness of relation to obstacles and terrain through all phases of flight*			
Preflight procedures			
Appropriate logbook and certificate endorsements *Receives appropriate logbook and certificate endorsements as required*			
In-flight			
Short-field takeoff and climb *Pitch attitude: V_X (+10/-5 knots) then V_Y (+10/-5 knots)*			
Soft-field takeoff and climb *Maintains takeoff power, V_X or V_Y as appropriate (+10/-5 knots)*			
Maneuvering during slow flight (IR) *Maintains altitude (+/- 150 feet), heading (+/- 15°), airspeed (+10/-0 knots), bank (+/- 10°)*			
Stall with a bank (not to exceed 20°) *Recognizes and recovers promptly by simultaneously reducing angle of attack and increasing power as appropriate*			
Spin awareness and recovery procedures *Knows procedures for avoidance and recovery from unintentional spins*			
Recovery from unusual attitudes (VR-IR) *Uses proper control inputs in the correct sequence to return to stabilized flight and avoid overstressing the airplane structure*			
Basic instrument maneuvers (IR) *Maintain altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			
Navigation systems/facilities, and radar services (IR) *Maintain altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			
GPS direct-to/nearest airport function (IR) *Maintains altitude (+/- 200 feet), heading (+/- 15°), airspeed (+/- 10 knots)*			

Phase 6 Proficiency Checklist continued

Lost procedures *Can safely and accurately determine position using all available resources without furthering the intensity of the problem or violating airspace*			
Steep turns *Maintains altitude (+/- 150 feet), heading (+/- 15°), airspeed (+/- 10 knots), bank (+/- 5°)*			
Rectangular course *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Turns around a point *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
S-turns *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Short-filed approach and landing *Stabilized approach (+10/-5 knots), touches down within 400 feet, uses maximum aerodynamic breaking*			
Soft-field approach and landing *Maintains approach speed of 1.3 Vso (+/- 10 knots), touches down and keeps the weight off of the nosewheel*			

Phase 6 completion standards:

You have completed Phase 6 when you

- 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

_____

INSTRUCTOR NOTES:

PHASE 7: Flying Cross-Country

Phase Objective: During this phase you will:

- Safely plan and conduct cross-country flights
- Demonstrate the ability to locate needed radio frequencies as well as in-flight weather resources and radar resources for your route
- Demonstrate the ability to perform a safe cross-country flight without instructor assistance
- Fly your first solo cross-country flight
- Complete the CPC Knowledge Test

Web-based KNOWLEDGE INSTRUCTION

PREPARING FOR CROSS-COUNTRY FLIGHTS
BASIC NAVIGATION PROCEDURES

1) PREPARING FOR YOUR CROSS-COUNTRY FLIGHTS

Objectives: You will learn how to find information on your destination airport and your route of flight. You will also learn how to use a flight computer and navigate to your destination safely.

I. Sources of Flight Information
- Chart Supplement
- Sectional and/or Terminal Area Chart
- Flight Service Station
- Notices to Airmen (NOTAMS)

II. Planning and Organizing Your Cross-Country Flight
- Selecting Your Route
- Organizing Your Cross-Country Information
- Survival Gear

III. Cockpit Resource Management
- Using Cockpit Resources
- Using Other Resources

2) BASIC NAVIGATION PROCEDURES

Objectives: You will learn to use your navigation plotter, flight computer, and the E6B functions on a GPS or multifunction display to calculate groundspeed and fuel consumption. You will learn cross-country planning, including how to navigate using checkpoints on the ground and how to correct for winds at your altitude.

I. Flight Computer
- Mechanical Flight Computer
- Electronic Flight Computer
- Time-Speed-Distance Problems
- Fuel Problems
- Wind Problems
- Navigation Plotter
- E6B Functions on GPS/Multifunction Displays

II. Navigating Using Checkpoints on the Ground
- Pilotage
- Dead Reckoning
- Basic Compass Navigation

III. Keeping Track of Your Location
- Navigation Log
- FAA Flight Plan
- VFR Flight Following

KNOWLEDGE

SOLO CROSS-COUNTRY BRIEFING- CPC Knowledge Test
***PROGRESS CHECK*- Oral quizzing**

***SOLO CROSS COUNTRY BRIEFING* – CPC Knowledge Test**

Objectives: This briefing is a final review of what you need to know for your cross-country operations. This is the time to discuss any questions you have with your instructor.

- Required 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

***PROGRESS CHECK*- Oral quizzing**

- 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

FLIGHT SCENARIOS

GOING CROSS-COUNTRY

POLISHING YOUR CROSS-COUNTRY SKILLS

PROGRESS CHECK

SOLO CROSS-COUNTRY

Flight scenarios will be repeated as necessary to reach the desired proficiency

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
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
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.
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)

New this scenario:
Route selection
Flight publications and currency *(A/FD, sectional and/or 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 *(radar services)*
Pilotage
Dead reckoning
Navigation systems *(installed in the airplane)*
Using the federal airway system *(as applicable)*
In-flight weather resources *(Flight Service, ATIS, AWOS/ASOS, Unicom)*
Closing flight plans

Improving your skills:
Situational awareness
Task management
Aeronautical decision making
Runway incursion avoidance

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
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
Planned deviations:
Diversion to an alternate airport (to completion)
Planned malfunctions:
Engine failure, alternator failure, radio failure, carburetor icing, flight display/instrument failure, pilot disorientation
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.
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)

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

Improving your skills:
Automation management
Risk management
Controlled flight into terrain awareness
Route selection
Flight publications and currency *(A/FD, 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 Service, ATIS, AWOS/ASOS, Unicom)*
Lost procedures
Emergency communications and ATC resources
System and equipment malfunctions
Closing flight plans

SCENARIO 3: ***PROGRESS CHECK***

Objective:
To demonstrate that you can safely act as pilot in command on a solo cross-country flight
Where to go:
As assigned by the designated instructor (prior to the day of the flight)
How to get there:
Pilotage, GPS or VOR navigation, dead reckoning
Planned deviations:
Diversion to an alternate (partial or to full completion)
Planned malfunctions:
Engine failure, alternator failure, radio failure, carburetor icing, flight display/instrument failure, pilot disorientation
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
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

Testing your knowledge:
Review assigned cross-country flight planning
Appropriate logbook and certificate endorsements
FAA flight plans
Airspace
Weather
Lost procedures
System and equipment malfunctions

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

Phase 7 **Progress Check*- Oral*

Desired outcome for all tasks for the Progress Check is "Explain"	Instruction Given	Describe	Explain
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			

Phase 7 **Progress Check*- Flight*

Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Preflight procedures			
Route selection *Selects safe routing free of obstructions and hazardous weather*			
Flight publications and currency *Utilizes current flight publications such as Sectional and/or TAC charts, A/FD, NOTAMS and other time-sensitive navigation tools*			
Obtaining a weather briefing *Obtains an appropriate weather briefing from an FAA approved source*			
Cross-country flight planning and performance *Utilizes performance charts and completes planning for route*			
Emergency equipment and survival gear *Identifies appropriate emergency equipment that should be on board*			
Weight and balance *Performs correct weight and balance calculations*			
In-flight			
Cross-country navigation log *Completes and utilizes a navigation log*			
Cockpit management *Cockpit is organized and resources are accessible to pilot*			
Power settings and mixture control *Sets appropriate power settings and utilizes correct procedures for leaning mixture*			
Opening flight plans *Opens FAA flight plan*			
VFR flight following *Utilizes VFR radar services as available*			
Pilotage *Maintains altitude (+/- 200 feet), headings (+/- 15°)*			
Dead reckoning *Maintains altitude (+/- 200 feet), headings (+/- 15°) including magnetic compass use*			
Navigation systems and radar services *Maintains altitude (+/- 200 feet), headings (+/- 15°)*			

Phase 7 **Progress Check*- Flight* continued

Using the federal airway system *(as applicable)* *Can properly utilize the federal airway system*			
Diversion to an alternate *(done to completion at least once)* *Maintains altitude (+/- 200 feet), headings (+/- 20°)*			
Lost procedures *Follows the recommended procedures, confirms position*			
Emergency operations *Follows manufacturer-recommended procedures promptly using a checklist to confirm any memory items*			
System and equipment malfunctions *Recognizes and responds to the malfunction using sound decision-making skills and follows recommended procedures*			
Emergency communications and ATC resources *Demonstrates the ability to contact ATC resources for in-flight emergency assistance and radar services*			
In-flight weather resources *Utilizes weather resources in-flight for the most current weather information*			
Postflight procedures			
Closing flight plans *Closes FAA flight plan*			

*Phase 7 *Progress Check* completion standards:*

You have completed Phase 7 Progress Check when you

- Demonstrate the ability to plan and safely conduct cross-country flights

INSTRUCTOR NOTES:

SCENARIO 4: Your First Solo Cross-Country

Objective:
Fly your first solo day VFR cross-country flight
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)

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 7 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Required 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			

Phase 7 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
***Progress Check** *Satisfactorily pass the *Progress Check**			
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Task management *Prioritizes and selects the most appropriate tasks*			
Risk management *Maintains situational awareness, problem recognition and good judgment to reduce associated risks*			
Situational awareness *Maintains an accurate perception and understanding of surrounding factors and flight conditions*			
Aeronautical decision making *Uses a systematic approach to consistently determine the best course of action for the circumstances*			
Controlled flight into terrain awareness *Demonstrates awareness of relation to obstacles and terrain through all phases of flight*			
Automation management *Demonstrates ability to understand and operate (or) when not to use the automated systems including GPS and autopilot, if installed.*			

Phase 7 Proficiency Checklist continued

Preflight procedures			
Appropriate logbook and certificate endorsements *Obtains the required logbook and certificate endorsements*			
Route selection *Selects the safest and most efficient route*			
Flight publications and currency *Utilizes current flight publications, tabs the destination and departure and possible alternate airports in the A/FD for easy reference*			
Obtaining a weather briefing *Obtains an weather briefing from an FAA-approved source*			
Cross-country flight planning and performance *Selects easily identifiable checkpoints and the most favorable altitude considering weather and equipment capabilities*			
Emergency equipment and survival gear *Identifies and carries appropriate emergency equipment and survival gear appropriate to the airplane and environment*			
Weight and balance *Computes accurate weight and balance information*			
Runway incursion avoidance *Uses best procedures for operation planning and maintaining situational awareness during taxi*			
In-flight			
Cross-country navigation log *Completes and utilizes a navigation log*			
Cockpit management *Organizes cockpit so that resources are accessible*			
Power settings and mixture control *Sets appropriate power settings and utilizes correct procedures for leaning mixture*			
Opening flight plans *Opens FAA flight plan*			
VFR flight following *Utilizes VFR radar services as available*			
Pilotage *Maintains altitude (+/- 150 feet), headings (+/- 15°)*			
Dead reckoning *Maintains altitude (+/- 150 feet), headings (+/- 15°) including magnetic compass use*			
Navigation systems *Maintains altitude (+/- 150 feet), headings (+/- 15°)*			
Using the federal airway system *(as applicable)* *Uses the correct altitude if navigating via federal airway*			
Diversion to an alternate *(done to completion at least once)* *Maintains altitude (+/- 150 feet), headings (+/- 15°)*			
Lost procedures *Follows the recommended procedures and confirms position*			
Emergency operations *Follows the manufacturer-recommended procedures while maintaining control of the airplane*			
System and equipment malfunctions *Analyzes the situation and takes appropriate action for simulated malfunctions appropriate to the airplane*			
Emergency communications and ATC resources *Demonstrates the ability to contact the nearest (radar-equipped) ATC resource for emergency communications*			
In-flight weather resources *Utilizes all available weather resources to make informed decisions*			
Postflight procedures			
Closing flight plans *Closes FAA flight plan*			

Phase 7 completion standards:

You have completed Phase 7 when you

- 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 Report with your instructor
- Pass the Progress Check
- Pass the CPC Knowledge Test
- Safely plan and conduct a cross-country flight without instructor assistance

---

INSTRUCTOR NOTES:

PHASE 8: Flying at Night *[Private Pilot only]*

Phase Objective: During this phase you will
- Learn the additional planning necessary to fly at night
- Increase your night flying and cross-country proficiency
- Complete the FAA night flying requirements

Web-based KNOWLEDGE

NIGHT FLYING AND THE HUMAN BODY
RADIO NAVIGATION

1) NIGHT FLYING AND THE HUMAN BODY

Objectives: You will learn the special considerations for night operations, including some of the physical limitations that affect the human body at night. You will also learn about flying cross-country at night.

I. Vision in Flight
- Night Vision
- Visual Illusions
- Spatial Disorientation

II. Night Operations
- Sunset, Civil Twilight and Night
- Preparation for Night Flying
- Airplane and Airport Lighting
- Night Emergencies

III. Flying Cross-Country at Night
- Preparation and Equipment
- Route and Altitude Selection
- Using the G1000 at Night

2) RADIO NAVIGATION

Objectives: You will learn about the radio navigation system called Automatic Direction Finder (ADF) and the Very High Frequency Omni-directional Range (VOR).

I. Automatic Direction Finder (ADF)
- Understanding the ADF
- Using the ADF
- Using the ADF to Determine Position
- Using an RMI to Intercept and Track a Bearing

II. VHF Omni-directional Range (VOR)
- Understanding the VOR
- Using VOR Radials
- Testing VOR Accuracy

FLIGHT SCENARIOS

FLYING AT NIGHT

FLYING CROSS-COUNTRY AT NIGHT

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Flying at Night

Objective:
Learn the fundamentals of night operations
Where to go:
A suitable point within 30 minutes flight time free from obstructions
How to get there:
Pilotage, GPS
Planned deviations:
None
Planned malfunctions:
None
Purpose/pressures (real or simulated):
To experience flying and landing at night for the first time
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

New this scenario:
Night preparation and planning
Night preflight procedures and pilot equipment
Airport navigation and lighting
Required aircraft equipment
Landing with and without a landing light
Six takeoffs and landings to a full stop

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

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.
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 8 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Night preparation and planning			
Required aircraft equipment			
Night illusions			
Route selection at night			
Airport navigation and lighting			

Phase 8 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Controlled flight into terrain awareness *Demonstrates awareness of relation to obstacles and terrain through all phases of flight*			
Preflight procedures			
Night preflight procedures and pilot equipment *Utilizes recommended procedures and equipment*			
Route selection *Selects safe routing free of obstructions and hazardous weather*			
Flight publications and currency *Utilizes current flight publications such as sectional and/or terminal area charts, A/FD, NOTAMs and other time-sensitive navigation tools*			
Obtaining a weather briefing *Obtains an appropriate weather briefing from an FAA approved source*			
Cross-country flight planning and performance *Utilizes performance charts and completes planning for route*			
In-flight			
Cross-country navigation log *Completes and utilizes a navigation log*			
Cockpit management *Cockpit is organized and resources are accessible to pilot*			
Power settings and mixture control *Sets appropriate power settings and utilizes correct procedures for leaning mixture*			
Opening flight plans *Opens FAA flight plan*			
VFR flight following *Utilizes VFR radar services as available*			
In-flight weather resources *Utilizes all available weather resources to make informed decisions*			

Phase 8 Proficiency Checklist continued

Pilotage and dead reckoning *Maintains altitude (+/- 150 feet), headings (+/- 15°)*			
Navigation systems *Can utilize installed navigation systems*			
Lost procedures *Follows the recommended procedures, confirms position using a VOR crosscheck and/or GPS*			
Emergency equipment and survival gear *Brings the appropriate equipment for the flight conditions*			
Emergency communications and ATC resources *Demonstrates the ability to contact the nearest (radar-equipped) ATC resource for emergency communications*			
Recovery from unusual attitudes *Recovers promptly to a stabilized level flight attitude using coordinated control application in the correct sequence*			
Landing with and without a landing light *Can safely use visual cues and lighting to land in the event of a landing light failure*			
(10) Night takeoffs and full-stop landings *Completes the FAA requirement of 10 full-stop night landings*			
Postflight procedures			
Closing flight plans *Closes FAA flight plan*			

Phase 8 completion standards:

You have completed Phase 8 when you

- Can 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
- Have reviewed the Phase Progress Report with your instructor

INSTRUCTOR NOTES:

PHASE 9: Advancing Your Skills

Phase Objective: During this phase you will

- Polish your emergency instrument skills
- Complete your FAA cross-country requirements
- Practice maneuvers assigned by your instructor as needed on a solo flight

Web-based KNOWLEDGE INSTRUCTION

FLYING LONGER CROSS-COUNTRY ROUTES

1) **FLYING LONGER CROSS-COUNTRY ROUTES**

Objectives: You will learn processes to ensure that you use sound judgment and decision-making in your cross-country trip planning.

I. The Long Cross-Country Flight

Before You Go
Keeping Track of Your Progress

FLIGHT SCENARIOS

POLISHING EMERGENCY INSTRUMENT SKILLS

SOLO CROSS-COUNTRY PRACTICE

LONG SOLO CROSS-COUNTRY

SOLO PRACTICE

Flight scenarios will be repeated as necessary to reach the desired proficiency

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.
Where to go:
A suitable point within 30 minutes flight time free of dense traffic
How to get there:
Pilotage, GPS
Planned deviations:
None
Planned malfunctions:
Pilot disorientation
Purpose/pressures (real or simulated):
When you experience unexpected lowering visibility, you are 5 nm from your airport, which is reporting marginal VFR, and 20 nm from a neighboring airport reporting 6 miles visibility
Risks (real or simulated):
Low ceilings and visibility, marginal VFR, recency of experience in short- and soft-field landings

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

SCENARIO 2: Solo Cross-Country Practice

Objective:
To practice solo cross-country operations and aeronautical decision making
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
Route selection
Flight publications and currency
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

SCENARIO 3: Long Solo Cross-Country

Objective:
Complete the solo cross-country flight requirements for your private pilot certificate.
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
Route selection
Flight publications and currency
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

SCENARIO 4: More Solo Practice

Objective:
Practice maneuvers in preparation for the final phase of training
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 9 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Cross-country flight planning and performance			

Phase 9 Proficiency Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
Single-pilot resource management *Utilizes all resources available to ensure the successful completion of the flight*			
Task management *Prioritizes and selects the most appropriate tasks*			
Risk management *Maintains situational awareness, problem recognition and good judgment to reduce associated risks*			
Situational awareness *Maintains an accurate perception and understanding of location, surrounding factors and conditions*			
Aeronautical decision making *Uses a systematic approach to consistently determine the best course of action for the circumstances*			
Controlled flight into terrain awareness *Demonstrates awareness of relation to obstacles and terrain through all phases of flight*			
Automation management *Demonstrates ability to understand and operate installed equipment such as GPS and/or autopilot if installed*			
Preflight procedures			
Appropriate logbook and certificate endorsements *Obtains appropriate instructor endorsements*			
Route selection *Selects safe routing free of obstructions and hazardous weather*			
Flight publications and currency *Utilizes current flight publications such as sectional and/or terminal area charts, A/FD, NOTAMs and other time-sensitive navigation tools*			
Obtaining a weather briefing *Obtains an appropriate weather briefing from an FAA approved source*			
Cross-country flight planning and performance *Utilizes performance charts and completes planning for route*			
In-flight			
Cross-country navigation log *Completes and utilizes a navigation log*			
Cockpit management *Cockpit is organized and resources are accessible to pilot*			
Power settings and mixture control *Sets appropriate power settings and utilizes correct procedures for leaning mixture*			
Opening flight plans *Opens FAA flight plan*			

Phase 9 Proficiency Checklist continued

VFR flight following *Utilizes VFR radar services as available*			
In-flight weather resources *Utilizes all available weather resources to make informed decisions*			
Basic instrument maneuvers (IR) *Maintains altitude (+/- 200 feet), heading (+/- 20°), airspeed (+/- 10 knots)*			
180° turn (IR) *Maintains altitude (+/- 200 feet), heading (+/- 20°), airspeed (+/- 10 knots)*			
GPS orientation and tracking, *if equipped* (IR) *Maintains altitude (+/- 200 feet), heading (+/- 10°), airspeed (+/- 10 knots)*			
VOR orientation and tracking, *if equipped* (IR) *Maintains altitude (+/- 200 feet), heading (+/- 10°), airspeed (+/- 10 knots)*			
Pilotage and dead reckoning *Maintains altitude (+/- 150 feet), headings (+/- 15°)*			
Navigation aids and radar services *Maintains altitude (+/- 150 feet), headings (+/- 15°)*			
Recovery from unusual attitudes (IR) *Recovers promptly to a stabilized level flight attitude using coordinated control application in the correct sequence*			
Emergency operations *Follows the manufacturer-recommended procedures while maintaining control of the airplane*			
Steep turns *Maintains altitude (+/- 150 feet), heading (+/- 15°), airspeed (+/- 15 knots), bank (+/-8 °)*			
Maneuvers assigned by your instructor *Airman certification standards*			
Ground reference maneuvers *Maintains altitude (+/- 150 feet), airspeed (+/- 10 knots)*			
Short-field takeoff and maximum performance climb *Pitch attitude: V_X (+10/-5 knots) then V_Y (+10/-5 knots)*			
Short-field approach and landing *Stabilized approach (+10/-5 knots), touches down at or within 250 feet*			
Soft-field takeoff and climb *Maintains takeoff power, V_X or V_Y as appropriate (+10/-5 knots)*			
Soft-field approach and landing *Recommended airspeed or 1.3 V_{so} (+/- 10 knots)*			
Postflight procedures			
Closing flight plans *Closes FAA flight plan*			

Phase 9 completion standards:

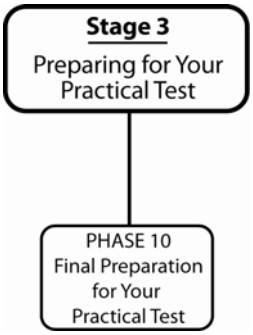
You have completed Phase 9 when you

- 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.
- Have reviewed the Phase Progress Report with your instructor.

_____

INSTRUCTOR NOTES:

STAGE 3: Preparing for your Practical Test



Stage 3 consists of one Phase:
- Final Preparation for Your Practical Test

Stage Objective: During this stage you will
- Prepare for the FAA Practical Test
- Learn what to bring to the practical test
- Learn about your responsibilities as a newly licensed pilot
- Take your final Progress Check

PHASE 10: Final Preparation for Your Practical Test

Phase Objective: During this phase you will
- Prepare for your practical test by identifying any weak areas and improving your performance in that area
- Be able to perform to airman certification standards in all areas of operation
- Complete a practical test briefing
- Complete a mock FAA Practical Test with your instructor
- Pass your final progress check

Web-based KNOWLEDGE INSTRUCTION

HOW TO PASS YOUR CHECKRIDE
YOUR RESPONSIBILITIES AS A LICENSED PILOT

KNOWLEDGE

***PRACTICAL TEST BRIEFING*- Airman Certification Standards (ACS)**
***Mock FAA Practical Test*- Oral Quizzing**
****FINAL PROGRESS CHECK**** **Oral Quizzing- Check Instructor**

1) HOW TO PASS YOUR CHECKRIDE

Objectives: You will learn what the FAA designated pilot examiner will be looking for on your checkride and what to bring with you to.

I. Coming Prepared to Your checkride
- FAA Form 8710
- Airplane Logbooks
- Items to Bring
- Airman Certification Standards (ACS)

II. The Oral Exam
- Helpful Hints

III. The Flight Exam
- You Are the PIC

2) YOUR RESPONSIBILITIES AS A CERTIFICATED PILOT

Objectives: You will learn suggestions for a safe transition to being a newly certificated pilot, tips for carrying passengers and how to keep current.

I. Your Responsibilities as PIC
- Staying Current
- Broadening Your Horizons
- Transitions to Unfamiliar Airplanes

II. Passengers
- Flying Safely and Risk Management
- Coping With Passenger Anxiety or Illness

PRACTICAL TEST BRIEFING

Objectives: This briefing is deigned to review all applicable knowledge in the appropriate practical test standards, identify any weak areas and fix them. You will also learn what you need to be prepared for the practical test

- 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]

Mock FAA Practical Test- Oral Quizzing

- All applicable ACS items

FINAL PROGRESS CHECK Oral Quizzing-Check Instructor

- All applicable ACS items

FLIGHT SCENARIOS

1- Mock FAA Practical Test

2 - Final **PROGRESS CHECK**

Flight scenarios will be repeated as necessary to reach the desired proficiency

SCENARIO 1: Mock FAA Practical Test

Objective:
You will fly with a designated instructor to ensure you are ready for the practical test
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
Pilot qualification
Airworthiness requirements
Weather information
Cross-country flight planning
National airspace system
Performance and limitations
Operation of systems
Human factors
Principles of flight *[Sport Pilot only]*

Preflight procedures
Preflight assessment
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 takeoff and climb
Normal approach and landing
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 maneuvers
Steep turns
Ground reference maneuvers

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 descent
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

SCENARIO 2: Final ***PROGRESS CHECK***

Objective:
You will fly with a designated instructor to ensure you are ready for the practical test
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
Pilot qualification
Airworthiness requirements
Weather information
Cross-country flight planning
National Airspace System
Performance and limitations
Operation of systems
Human factors
Principles of flight *[Sport Pilot only]*

Preflight procedures
Preflight assessment
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 takeoff and climb
Normal approach and landing
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 maneuvers
Steep turns
Ground reference maneuvers

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 descent
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 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Preparation for the practical test			

Phase 10 Proficiency Checklist

All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. Desired outcome for all tasks by the end of the phase is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Progress Check *Satisfactorily pass the *Progress Check**			
Single-pilot resource management - *Evaluated during all phases flight (including of pre-and postflight)*			
Task management *Airman certification standards*			
Risk management *Airman certification standards*			
Situational awareness *Airman certification standards*			
Aeronautical decision making *Airman certification standards*			
Controlled flight into terrain awareness *Airman certification standards*			
Automation management *Airman certification standards*			
Preflight preparation			
Certificates and documents *Airman certification standards*			
Airworthiness requirements *Airman certification standards*			
Weather information *Airman certification standards*			
Cross-country flight planning *Airman certification standards*			
National airspace system *Airman certification standards*			
Performance and limitations *Airman certification standards*			
Operation of systems *Airman certification standards*			
Aeromedical factors *Airman certification standards*			
Principles of flight ***[Sport Pilot]*** *Practical test standards*			

Preflight procedures			
Preflight inspection *Airman certification standards*			
Cockpit management *Airman certification standards*			
Engine starting *Airman certification standards*			
Taxiing *Airman certification standards*			
Runway incursion avoidance *Airman certification standards*			
Before takeoff check *Airman certification standards*			
Airport operations			
Radio communications *Airman certification standards*			
ATC light signals ***[Private Pilot]*** *Airman certification standards*			
Traffic patterns *Airman certification standards*			
Runway & taxiway signs, markings and lighting *Airman certification standards*			
Takeoffs, landings, and go-arounds			
Normal and crosswind takeoff and climb *Airman certification standards*			
Normal and crosswind approach and landing *Airman certification standards*			
Soft-field takeoff and climb *Airman certification standards*			
Soft-field approach and landing *Airman certification standards*			
Short-field takeoff and climb *Airman certification standards*			
Short-field approach and landing *Airman certification standards*			
Forward slip to a landing *Airman certification standards*			
Go-around/rejected landing *Airman certification standards*			
Performance maneuvers			
Steep turns *Airman certification standards*			
Ground reference maneuvers			
Rectangular course *Airman certification standards*			
S-turns *Airman certification standards*			
Turns around a point *Airman certification standards*			

Navigation			
Pilotage and dead reckoning *Airman certification standards except maintains appropriate altitude +/- 100 feet*			
Navigation systems and radar services *Airman certification standards except maintains appropriate altitude +/- 100 feet*			
Diversion *Airman certification standards except maintains appropriate altitude +/- 100 feet*			
Lost procedures *Airman certification standards*			
Slow flight & stalls			
Maneuvering during slow flight *Airman certification standards*			
Power-off stalls *Airman certification standards*			
Power-on stalls *Airman certification standards*			
Spin awareness *Airman certification standards*			
Basic instrument maneuvers *[Private Pilot]*			
Straight-and-level flight (IR) *Airman certification standards*			
Constant airspeed climbs (IR) *Airman certification standards*			
Constant airspeed descents (IR) *Airman certification standards*			
Turns to headings (IR) *Airman certification standards*			
Recovery from unusual flight attitudes (IR) *Airman certification standards*			
Radio communications, navigation systems/facilities, and radar services (IR) *Airman certification standards except maintains heading +/- 10°*			
Emergency operations			
Emergency descent *Airman certification standards*			
Emergency approach and landing *Airman certification standards*			
Systems and equipment malfunctions *Airman certification standards*			
Emergency equipment and survival gear *Airman certification standards*			
Night operation *[Private Pilot]*			
Night preparation *Airman certification standards*			
Postflight procedures			
After landing, parking and securing *Airman certification standards*			

Phase 10 completion standards:

You have completed Phase 10 when you

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

Phase 10 **Progress Check*- Flight*

**All items to be graded independently by the instructor and customer, then discussed and a final grade assessed.* *Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"*	Practice	Perform	Manage/ Decide
Single-pilot resource management - *Evaluated during all phases flight (including of pre-and postflight)*			
Task management *Airman certification standards*			
Risk management *Airman certification standards*			
Situational awareness *Airman certification standards*			
Aeronautical decision making *Airman certification standards*			
Controlled flight into terrain awareness *Airman certification standards*			
Automation management *Airman certification standards*			
Preflight preparation			
Certificates and documents *Airman certification standards*			
Airworthiness requirements *Airman certification standards*			
Weather information *Airman certification standards*			
Cross-country flight planning *Airman certification standards*			
National airspace system *Airman certification standards*			
Performance and limitations *Airman certification standards*			
Operation of systems *Airman certification standards*			
Aeromedical factors *Airman certification standards*			
Principles of flight ***[Sport Pilot]*** *Practical test standards*			
Preflight procedures			
Preflight inspection *Airman certification standards*			
Cockpit management *Airman certification standards*			
Engine starting *Airman certification standards*			
Taxiing *Airman certification standards*			
Runway incursion avoidance *Airman certification standards*			
Before takeoff check *Airman certification standards*			

Phase 10 **Progress Check*- Flight* continued

Airport operations			
Radio communications *Airman certification standards*			
ATC light signals ***[Private Pilot]*** *Airman certification standards*			
Traffic patterns *Airman certification standards*			
Runway & taxiway signs, markings and lighting *Airman certification standards*			
Takeoffs, landings, and go-arounds			
Normal and crosswind takeoff and climb *Airman certification standards*			
Normal and crosswind approach and landing *Airman certification standards*			
Soft-field takeoff and climb *Airman certification standards*			
Soft-field approach and landing *Airman certification standards*			
Short-field takeoff and climb *Airman certification standards*			
Short-field approach and landing *Airman certification standards*			
Forward slip to a landing *Airman certification standards*			
Go-around/rejected landing *Airman certification standards*			
Performance maneuvers			
Steep turns *Airman certification standards*			
Ground reference maneuvers			
Rectangular course *Airman certification standards*			
S-turns *Airman certification standards*			
Turns around a point *Airman certification standards*			
Navigation			
Pilotage and dead reckoning *Airman certification standards except maintains appropriate altitude +/- 100 feet*			
Navigation systems and radar services *Airman certification standards except maintains appropriate altitude +/- 100 feet*			
Diversion *Airman certification standards except maintains appropriate altitude +/- 100 feet*			
Lost procedures *Airman certification standards*			
Slow flight & stalls			
Maneuvering during slow flight *Airman certification standards*			
Power-off stalls *Airman certification standards*			

Phase 10 **Progress Check*- Flight* continued

Power-on stalls *Airman certification standards*			
Spin awareness *Airman certification standards*			
Basic instrument maneuvers *[Private Pilot]*			
Straight-and-level flight (IR) *Airman certification standards*			
Constant airspeed climbs (IR) *Airman certification standards*			
Constant airspeed descents (IR) *Airman certification standards*			
Turns to headings (IR) *Airman certification standards*			
Recovery from unusual flight attitudes (IR) *Airman certification standards*			
Radio communications, navigation systems/facilities, and radar services (IR) *Airman certification standards except maintains heading +/- 10°*			
Emergency operations			
Emergency descent *Airman certification standards*			
Emergency approach and landing *Airman certification standards*			
Systems and equipment malfunctions *Airman certification standards*			
Emergency equipment and survival gear *Airman certification standards*			
Night operation *[Private Pilot]*			
Night preparation *Airman certification standards*			
Postflight procedures			
After landing, parking and securing *Airman certification standards*			

*Phase 10 *Progress Check* completion standards:*

You have completed the Phase 10 Progress Check when you

- Perform to the Airman certification standards in all areas

INSTRUCTOR NOTES:

EXPANDED INSTRUCTOR BRIEFINGS

Stage 1, Phase 4

PRE-SOLO BRIEFING – Pre-Solo Knowledge Test

Objectives: To ensure sufficient knowledge to proceed to Phase 5 and solo.

- 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

Stage 2, Phase 7

***SOLO CROSS COUNTRY BRIEFING* – CPC Knowledge Test**

Objectives: This briefing is a final review of what you need to know for your cross-country operations. This is the time to discuss any questions you have with your instructor.

- Appropriate logbook and certificate endorsements
- Preflight preparation
- Obtaining weather information
- Route planning
- Airplane performance and limitations
- Navigation log
- FAA flight plan
- Radio frequencies and procedures
- National Airspace System
- 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
- Closing flight plans

Stage 3, Phase 10

PRACTICAL TEST BRIEFING

Objectives: This briefing is deigned to review all applicable knowledge in the appropriate airman certification standards, identify any weak areas and fix them. You will also learn what you need to be prepared for the practical test.

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

SUGGESTED KNOWLEDGE REVIEW SESSIONS

STAGE 1

Session 1:

Preflight inspection
Use of checklists and visual inspection
Positive exchange of flight controls
Collision avoidance/visual scanning
Aircraft V-speeds
Airman Certification Standards (ACS)
Safety Procedures and Practices
Obtaining weather (briefing and computer)
Weather minimums (flight school)
Fuel reserves required
Minimum altitude limitations
Location of practice areas

Session 2:

Airworthiness requirements
Aircraft servicing
Aircraft discrepancies
Aircraft logbooks
Aircraft certificates and documents
Airplane systems
Performance charts (Takeoff and landing data)
Weight and balance data
Fuel grades
Airport markings and lighting
Aircraft lighting during taxi and takeoff
Local radio communications
Land and hold short operations

Session 3:

Stall theory and spin awareness
Maneuvers to be performed
Regulations applicable to student pilots:
Part 61
Part 91
Student pilot limitations
Endorsements required for solo flights
Airspace
Radio communications failure
ATC light gun signals
System and equipment malfunctions
Emergency operations
Wake turbulence avoidance
Traffic pattern entries and departures
Operations at non-towered airports

Appendix B

STAGE 2

Session 1:

Explanations of short-field and soft-field landings using ACS

Cross Country operations:

- Weather information
- In-flight weather services
- Local frequencies for radar
- NOTAMS, AIM, AFD
- Flight planning and navigation logs
- Flight planning and performance
- Use of performance charts
- Use of mixture
- Filing, opening and closing a flight plan
- ATC communication
- Navigations systems
- National Airspace system
- VFR weather minimums
- Required endorsements
- Diversion procedures

Session 2:

Cross-country emergencies:

- Adverse weather
- Visibility
- Ceiling
- Wind
- Turbulence
- Thunderstorms
- Icing conditions
- Carburetor icing
- Lost procedures
- Low fuel
- Communications or navigation failure
- Instrument failure
- Other malfunctions

STAGE 3

Session 1:

Applicable Airman Certification Standards (ACS)

PAVE Checklist

PAVE your way to a safe takeoff and landing. Before you fly, examine your risk factors.

Remember the cumulative effect. Change your plan whenever more than one risk factor is marginal.

Pilot
Aircraft
en**V**ironment
External Pressures

PILOT

Make a frank assessment of your own skills.

- ❑ Am I proficient for the runway length and surface condition?
- ❑ Do I have recent experience required for today's wind conditions?
- ❑ Am I able to land the airplane exactly when and where I need to for this flight?
- ❑ Are the takeoff and landing conditions within my personal minimums?

AIRCRAFT

Evaluate the capability of the aircraft.

- ❑ Can this airplane safely take off and land in today's conditions?
- ❑ Are the winds for takeoff and landing within the maximum demonstrated crosswind component for the airplane?
- ❑ Is the runway length sufficient for this airplane considering:
  - this surface in these conditions?
  - the current density altitude?

ENVIRONMENT

Evaluate the environmental factors at the airport and on the runway.

- ❑ What is the crosswind component on the active runway?
- ❑ Is the runway slick from water, snow, or slush?
- ❑ Are braking action reports available?
- ❑ Will conditions at my destination require an approach with a tailwind landing?

External Pressures

Evaluate pressures that influence you to make or complete the flight.

- ❑ Do someone else's plans depend on you completing this flight?
- ❑ Are peers encouraging you to take off or land despite the conditions?
- ❑ What are your strategies for managing the external pressures specific to this flight?

CARE Checklist

Use the CARE attention scan to recognize and manage the changing risk factors in flight and for landing.

Manage your workload so that you have time to use the CARE checklist to deal with changes.

Consequences
Alternatives
Reality
External Pressures

Consequences

- ❑ Am I thinking: *What is changing at my destination and alternate*?
  What are the consequences?
- ❑ Are the wind strength, gusts, or crosswind component more than I anticipated?
- ❑ Is moisture on the runway, and will temperature be a factor?

Alternatives

- ❑ Do I have more than one alternate course of action?
- ❑ Are conditions changing at my destination?
- ❑ Should I land now to expand my circle of alternatives and remove pressure to land in adverse conditions?

Reality

- ❑ Have I accepted the fact that landing conditions at my destination airport have changed?
- ❑ Has the goal to land at my destination put me in denial?
- ❑ Am I dealing with things as they really are at my destination, or just as I planned them?

External Pressures

- ❑ Am I ignoring risk factors in order to land at my destination?
- ❑ Am I managing my own goal-oriented behavior?
- ❑ Are pressures influencing me to land under unsuitable conditions?

Cessna Sport / Private Pilot Course Training Requirements

Ground training requirements

The customer must successfully complete

- All web-based knowledge instruction and flight previews
- All Ground Training Checklists
- All Progress Checks
- All Expanded Instructor Briefings
- Pre-Solo written exam
- Cessna Pilot Center Final Exam

Flight training requirements

Prior to completing the Cessna Sport / Private Pilot Course

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

Requirements for graduation

To obtain a graduation certificate for the

- *Private Pilot Course,* the applicant must:
    - Be at least 17 years of age
    - Be able to read, speak, write and understand English
    - Complete all ground training requirements
    - Complete all flight training requirements
    - Hold a valid and current FAA Medical and Student Pilot Certificate
    - Complete the FAA Private Pilot-Airplane Knowledge Test
- *Sport Pilot Course,* the applicant must:
    - Be at least 17 years of age
    - Be able to read, speak, write and understand English
    - Complete all ground training requirements
    - Complete all flight training requirements
    - Complete the FAA Sport Pilot-Airplane Knowledge Test

Minimum flight time requirements

The course is designed to meet the minimum hour requirements of

- 14 CFR Part 141, Appendix B
- 14 CFR Part 61 Subparts C, E and J

The minimum FAA hour requirements

- Vary depending upon your course of enrollment
- Are to be thought of minimums only
    - FAA statistics indicate that the typical private pilot candidate has approximately 60 to 75 hours at the time of the practical test.

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

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

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

Due to this level of structure and supervision, a Part 141 approved curriculum is authorized to graduate qualified applicants in fewer flight hours.

Appendix D

GROUND TRAINING SUMMARY

Phase	Online Knowledge Lessons*	Online Flight Previews	Pre-flight & Post-flight Briefings**	Ground Training Checklist	Expanded Briefings	Total
1	5.0	1.0	0.9	1.5	0.0	8.4
2	3.5	1.3	1.2	1.5	0.0	7.5
3	3.4	0.6	0.9	1.5	0.0	6.4
4	3.0	0.1	0.9	2.0	1.0	7.0
5	0.1	0.0	1.4	0.0	0.0	1.5
Stage 1 Totals	15.0	3.0	5.3	6.5	1.0	30.8
6	1.4	0.6	0.6	1.0	0.0	3.6
7	1.7	0.5	1.6	2.0	1.5	7.3
8	1.4	0.4	0.8	1.0	0.0	3.6
9	0.1	0.0	0.3	0.5	0.0	0.9
Stage 2 Totals	4.6	1.5	3.3	4.5	1.5	15.4
10	0.7	0.0	1.5	0.0	2.0	4.2
Stage 3 Totals	0.7	0.0	1.5	0.0	2.0	4.2
Totals	**20.3**	**4.5**	**10.1**	**11.0**	**4.5**	**50.4**

* Based on a 45 second average per each lesson page and question.

** Based on 0.3 hour average total pre-flight and post-briefing per flight.

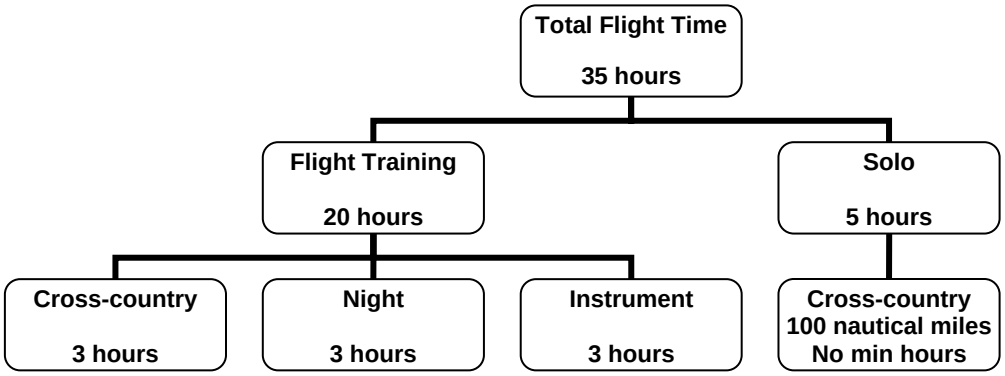
This syllabus accommodates the required 35-hour minimum aeronautical knowledge training when used as a Part 141 curriculum as shown in the table above.

The aeronautical knowledge training occurs through multiple paths including online tested self study, viewing the online flight-preparatory video segments, and instructor/customer interaction in the pre- and post-flight briefings, three phase-specific expanded briefings (pre-solo, solo cross-country, and practical test). Instruction may also be given during the instructor/customer Ground Training Checklist reviews.

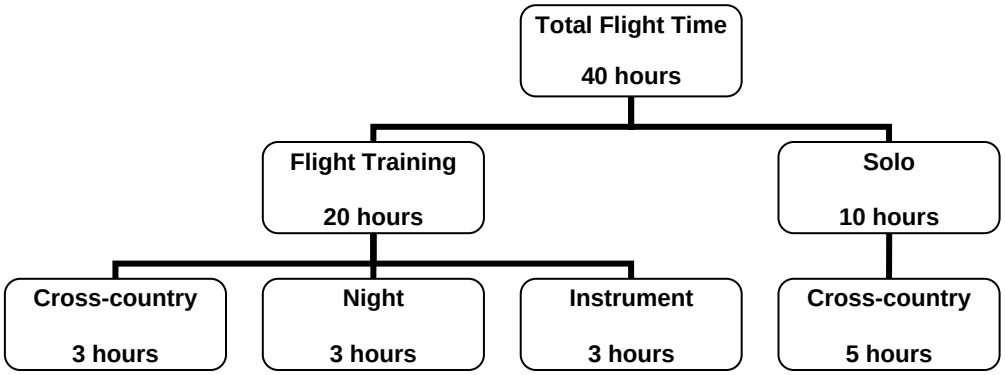
A customer receives credit for the online course study when they complete every lesson within the course. To complete a lesson, the customer must satisfactorily complete every question within that lesson.

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

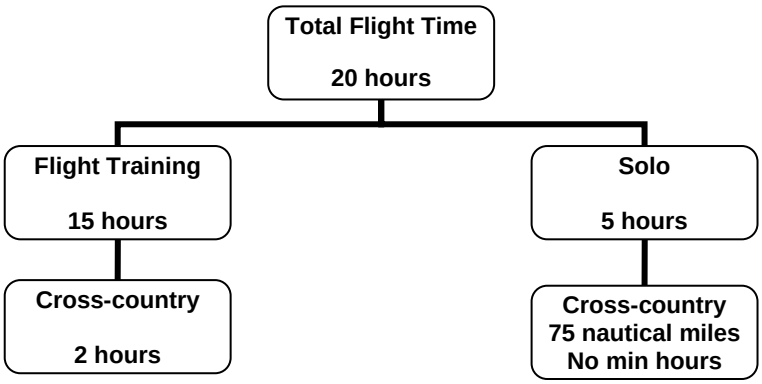
Private Pilot Certification, Part 141



Private Pilot Certification, Part 61



Sport Pilot Certification, Part 61



All times listed above are the minimum requirements for that flight training category. A combination of *Solo* and *Flight Training* can be used to satisfy the minimum *Total Flight Time*.

***Flight Training* (often called "dual") means time spent receiving flight instruction from an authorized instructor.**

RECOMMENDED FLIGHT TIMES

- By equaling or exceeding the times in each category listed in the following tables, you are assured that you have met the minimum flight time requirements for your course.
- For customers enrolled in a Part 141 Private Pilot Certification Course, this syllabus requires, and the CTA audits the minimum flight times as required by 14 CFR Part 141 Appendix B.

Appendix D

Private Pilot (Part 141)

* Representative flight times do not modify the Part 141 minimum requirements for graduation.

STAGE 1 ***(PRIVATE PILOT, Part 141)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
1	1	0.8	0.8						
	2	0.8	0.8						
	3	1.0	1.0						
2	1	1.2	1.2						
	2	1.0	1.0						
	3	1.1	1.1						0.3
	4 ***Prog*** √	***0.8***	***0.8***						
3	1	1.0	1.0						
	2	1.0	1.0						
	3	1.2	1.2						
4	1	1.2	1.2						0.3
	2	1.2	1.2						
	3	1.2	1.2						0.3
5	1 ***Prog*** √	***1.0***	***1.0***						***0.1***
	2	1.0	0.5	0.5					
	3	1.0	0.5	0.5					
Stage		**16.5**	**15.5**	**1.0**					**1.0**
Total		**16.5**	**15.5**	**1.0**					**1.0**

STAGE 2 ***(PRIVATE PILOT, Part 141)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
6	1	0.8		0.8					
	2	1.0	1.0						
	3	1.0	1.0						0.5
	4	0.8		0.8					
7	1	1.4	1.4		1.4				
	2	1.6	1.6		1.6				
	3 ***Prog*** √	***1.3***	***1.3***						
	4	1.3		1.3		1.3			
8	1	1.2	1.2				1.2	6	0.2
	2	1.8	1.8		1.8		1.8	4	0.3
9	1	1.0	1.0						0.4
	2	1.3		1.3		1.3			
	3	1.3		1.3		1.3			
	4	1.0		1.0					
Stage		**16.8**	**10.3**	**6.5**	**4.8**	**3.9**	**3.0**	**10**	**1.4**
Total		**33.3**	**25.8**	**7.5**	**4.8**	**3.9**	**3.0**	**10**	**2.4**

STAGE 3 ***(PRIVATE PILOT, Part 141)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
10	1	1.5	1.5						0.3
	2 ***Prog*** √	***1.5***	***1.5***						***0.3***
Stage		**3.0**	**3.0**						**0.6**

REPRESENTATIVE COURSE TOTALS** ***(PRIVATE PILOT, Part 141)

Total		**36.3**	**28.8**	**7.5**	**4.8**	**3.9**	**3.0**	**10**	**3.0**

MINIMUM REQUIRED FOR GRADUATION ***(PRIVATE PILOT, Part 141)***

Total		**35.0**	**20.0**	**5.0**	**3.0**	**N/A**	**3.0**	**10**	**3.0**

Private Pilot (Part 61)

STAGE 1 ***(PRIVATE PILOT, Part 61)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
1	1	1.0	1.0						
	2	1.0	1.0						
	3	1.0	1.0						
2	1	1.2	1.2						
	2	1.2	1.2						
	3	1.3	1.3						0.3
	4 ***Prog*** √	***1.0***	***1.0***						
3	1	1.0	1.0						
	2	1.0	1.0						
	3	1.2	1.2						
4	1	1.2	1.2						0.3
	2	1.2	1.2						
	3	1.2	1.2						0.3
5	1 ***Prog*** √	***1.2***	***1.2***						***0.1***
	2	1.0	0.5	0.5					
	3	1.0	0.5	0.5					
Stage		**17.7**	**16.7**	**1.0**					**1.0**
Total		**17.7**	**16.7**	**1.0**					**1.0**

STAGE 2 ***(PRIVATE PILOT, Part 61)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
6	1	1.1		1.1					
	2	1.0	1.0						
	3	1.0	1.0						0.5
	4	1.2		1.2					
7	1	1.5	1.5		1.5				
	2	1.8	1.8		1.8				
	3 ***Prog*** √	***1.3***	***1.3***						
	4	1.6		1.6		1.6			
8	1	1.2	1.2				1.2	6	0.2
	2	1.8	1.8		1.8		1.8	4	0.3
9	1	1.0	1.0						0.4
	2	2.0		2.0		2.0			
	3	2.0		2.0		2.0			
	4	1.2		1.2					
Stage		**19.7**	**10.6**	**9.1**	**5.1**	**5.6**	**3.0**	**10**	**1.4**
Total		**37.4**	**27.3**	**10.1**	**5.1**	**5.6**	**3.0**	**10**	**2.4**

STAGE 3 ***(PRIVATE PILOT, Part 61)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
10	1	1.5	1.5						0.3
	2 ***Prog*** √	***1.5***	***1.5***						***0.3***
Stage		**3.0**	**3.0**						**0.6**

COURSE TOTALS ***(PRIVATE PILOT, Part 61)***

Total		**40.4**	**30.3**	**10.1**	**5.1**	**5.6**	**3.0**	**10**	**3.0**

Appendix D

Sport Pilot (Part 61)

STAGE 1 ***(SPORT PILOT, Part 61)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
1	1	0.8	0.8						
	2	0.8	0.8						
	3	1.0	1.0						
2	1	1.0	1.0						
	2	1.2	1.2						
	3	1.2	1.2						0.3
	4 ***Prog*** √	***1.0***	***1.0***						
3	1	1.0	1.0						
	2	1.0	1.0						
	3	1.2	1.2						
4	1	1.2	1.2						0.3
	2	1.2	1.2						
	3	1.2	1.2						0.3
5	1 ***Prog*** √	***1.0***	***1.0***						***0.1***
	2	1.0	0.5	0.5					
	3	1.0	0.5	0.5					
Stage		**16.8**	**15.8**	**1.0**	**0**	**0**	**0**	**0**	**1.0**
Total		**16.8**	**15.8**	**1.0**	**0**	**0**	**0**	**0**	**1.0**

STAGE 2 ***(SPORT PILOT, Part 61)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
6	1	1.2		1.2					
	2	1.0	1.0						
	3	1.0	1.0						0.5
	4	1.2		1.2					
7	1	1.3	1.3		1.3				
	2	1.5	1.5		1.5				
	3 ***Prog*** √	***1.3***	***1.3***						
	4	1.6		1.6		1.6			
Stage		**10.1**	**6.6**	**4.0**	**2.8**	**1.6**	**0**	**0**	**0.5**
Total		**26.9**	**22.4**	**5.0**	**2.8**	**1.6**	**0**	**0**	**1.5**

STAGE 3 ***(SPORT PILOT, Part 61)***

Phase #	Scenario #	Total Time	Flight Training	Solo	Flight Training XC	Solo XC	Flight Training Night	Night Landings	Flight Training Instrument
10	1	1.5	1.5						
	2 ***Prog*** √	***1.5***	***1.5***						
Stage		**3.0**	**3.0**	**0**	**0**	**0**	**0**	**0**	**0**

COURSE TOTALS ***(SPORT PILOT, Part 61)***

Total		**29.9**	**25.4**	**5.0**	**2.8**	**1.6**	**0**	**0**	**1.5**

Presolo Written Test Questions

A. Written quiz

1. V speeds and their definitions
2. Aircraft emergency procedures

B. Take-home test

1. Aircraft limitations
2. Aircraft operation and maintenance
3. FARs
    a. Eligibility requirements for student pilots (61.83)
    b. Solo flight requirements for student pilots (61.87)
    c. General limitations (61.89)
    d. Responsibility and authority of the pilot in command (91.3)
    e. Careless or reckless operation (91.13)
    f. Dropping objects (91.15)
    g. Alcohol or drugs (91.17)
    h. Portable electronic devices (91.21)
    i. Preflight action (91.103)
    j. Use of safety belts, shoulder harnesses and child restraint systems (91.107)
    k. Right-of-way rules (91.113)
    l. Minimum safe altitudes (91.119)
    m. Altimeter settings (91.121)
    n. Compliance with ATC clearances and instructions (91.123)
    o. ATC light signals (91.125)
    p. Operating on or in the vicinity of an airport in Class G airspace (91.126)
    q. Operating on or in the vicinity of an airport in Class E airspace (91.127)
    r. Operations in Class D airspace (91.129)
    s. Operations in Class C airspace (91.130), as necessary
    t. Operations in Class B airspace (91.131), as necessary
    u. Restricted and prohibited areas (91.133)
    v. Fuel requirements for flight in VFR conditions (91.151)
    w. Basic VFR weather minimums (91.155)
    x. Civil aircraft: Certifications required (91.203)
    y. Aircraft lights (91.209)
    z. Aerobatic flight (91.303)
4. Aeronautical Information Manual
    a. Wake turbulence
    b. Radio failure procedures
    c. Airport markings
    d. Traffic pattern
        1. Pattern legs
        2. Entry and departure
        3. Standard turns
5. Local procedures
    a. Frequencies
        1. Airports
        2. Emergency
    b. Airport procedures
        1. Traffic pattern directions and altitudes
        2. Noise abatement
        3. Particular flight school procedures (as applicable)

Appendix E

Presolo Written Test Questions

The instructor may modify the quiz and test as desired for the local training environment.

FAR Part 61.87 Solo flight requirements for student pilots:

Aeronautical knowledge. A student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph:

(1) The test must address the student pilot's knowledge of—

(i) Applicable sections of parts 61 and 91 of this chapter;

(ii) Airspace rules and procedures for the airport where the solo flight will be performed, and

(iii) Flight characteristics and operational limitations for the make and model of aircraft to be flown.

(2) The student's authorized instructor must—

(i) Administer the test; and

(ii) At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight.

Written Quiz

Instructions: Answer each question in the space provided.

1. Define *and* list the following speeds for your aircraft:

V_S-

V_{SO}-

V_X-

V_Y-

V_A-

V_{FE}-

V_{NO}-

V_{NE}-

2. What is the airplane's best glide speed? When is it used?

3. List the procedure to respond to an in-flight engine failure.

4. List the procedure to respond to an engine fire on the ground while starting.

5. List the procedure for loss of communication radio when arriving at an airport with an operating control tower.

Presolo Written Test Questions

Take-Home Test

Instructions: Answer each question in the space provided, using the FARs, the AIM, the *Airport/Facility Directory*, and the *Pilot's Operating Handbook*. Use the space to the left of the question number to list the reference for each question.

1. What is the maximum gross weight of the airplane in the Normal category?

2. If a glider is converging with an airplane, which has the right of way?

3. What are the limit load factors in both the Normal and Utility categories with the flaps up? Flaps down?

4. What preflight action is required of a pilot prior to a flight?

5. What is the maximum rpm of your airplane?

6. Define an aerobatic maneuver.

7. Generally describe the engine in your airplane.

8. List the definition of careless or reckless operation.

9. What is the oil sump capacity in your airplane? What is the minimum?

10. What is the minimum amount of time after the consumption of alcohol a pilot is required to wait before flying?

11. What would happen to the fuel indicators if all electricity in the airplane was lost?

12. What are the basic VFR weather minimums? What is the minimum visibility for a student pilot?

Presolo Written Test Questions

13. Why is it necessary to drain fuel out of the sumps after refueling and before the first flight of the day?

14. List and describe each of the light gun signals available from air traffic control.

15. Will the engine still run if the master switch is turned off? Why?

16. What are wing-tip vortices (wake turbulence)? With which aircraft are they greatest? Describe proper avoidance.

17. What endorsements are required for solo flight? What three documents must you have in your possession to solo an aircraft as a student?

18. During runup, what is the maximum allowable rpm drop when checking the magnetos?

19. Draw an airport traffic pattern, labeling each leg and the proper entry and departure points. Which turn direction is standard for an airport traffic pattern?

20. List the traffic pattern altitude, direction of turns, noise abatement procedures, and all radio frequencies for the following local area airports (_____) and their runways.

21. What is the fuel capacity? How much is usable?

Presolo Written Test Questions

22. What is the authority and responsibility of the pilot in command?

23. When are you required to wear a safety belt?

24. When are you permitted to deviate from an ATC instruction?

25. What grade(s) of aviation fuel is/are available for use? What color is each?

26. When an aircraft is approaching another head-on, each pilot should alter their course to the _____.

27. A(n) _____ on the runway indicates that the runway is closed.

28. Draw the pavement marking requiring you to stop before entering a runway.

29. When is dropping objects from an airplane permitted?

30. The_____ of two aircraft on approach to the same runway has the right of way.

31. What must a pilot do before entering Class D airspace?

32. What is the minimum safe altitude anywhere? Over congested areas?

33. List the day-VFR weather minimums in Class G, E, and D airspace.

34. List the documents that must be aboard the airplane at all times.

35. When must the airplane's navigation lights be on?

36. Can a student pilot fly into Class B airspace? If so, what is required?

37. What is the minimum reserve fuel required for day VFR operations?

Presolo Written Test Questions

Instructor Notes: