SYLLABUS ADDENDUM

COMMERCIAL PILOT

KING SCHOOLS

Cessna Commercial Pilot Training Course

SYLLABUS ADDENDUM

Version 1.04

Cessna Commercial Pilot Syllabus Addendum
Your Path to Becoming a Commercial Pilot

TABLE OF CONTENTS

COMMERCIAL PILOT SYLLABUS ADDENDUM
REVISION RECORD

Revision Number	Revision Date	Online Date	Change Description
Ver. 1.00	05-16-14	ORIGINAL	ORIGINAL
Ver. 1.01	08-29-14	08-29-14	Editorial change to match scenario and phase proficiency checklist task titles for correct task association in the CTA. Affected pages: 3-7, 13-16, 18-20, 24-28, 30, 32, 35-36, 38-39, 41, 44-52, 55, 62-66, 71-73, 78, 83.
Ver. 1.02	10-31-14	11-7-14	Additional editorial changes to match scenario and phase proficiency checklist task titles for correct task association in the CTA. Affected pages: 4-6, 8-10, 13, 24-29, 31, 64-65, 72, 78.
Ver. 1.03	05-08-15	05-15-15	Editorial correction to Intro page vi removing reference to inapplicable Phase Progress Report.
Ver. 1.04	01-11-16	01-14-16	Editorial correction to Appendix pages A3 & A4 for Stage 2 and total Ground Training Hours. Added pages A5 & A6 to display all Ground Training time into a single page summary.

INSTRUMENT RATING SYLLABUS
REVISION RECORD

Revision Number	*Revision Date*	*Online Date*	*Change Description*

Cleared for Hire—Commercial Pilot Syllabus Addendum
Your Path to Becoming a Commercial Pilot

Purpose

You will use this addendum as a companion to the *Cleared for Hire* commercial pilot syllabus. It maps the syllabus curriculum to enable tracking of ground and flight training in the Cessna Flight Training System online *Course Tracking Application* (CTA). Each ground element of *Cleared for Hire* has been adapted into up-to-date online home-study lessons and the flight lessons are represented by individual training scenarios.

The FAA has reviewed the *Cleared for Hire* syllabus and determined that when incorporated into a fully developed curriculum, it will adequately meet the requirements of a 14 CFR part 141 commercial pilot training curriculum. This addendum maintains the *Cleared for Hire* three stage structure, training sequence and integrated ground and flight training.

The stages of *Cleared for Hire* are subdivided into two or more "phases", each containing multiple knowledge lessons and flight scenarios. Progress checks from *Cleared for Hire* are located in phases at key points in the course including those marking the end of a stage.

You will use this document as your day-to-day guide for training since it provides all the details for applying the syllabus with the curriculum elements. You will also find useful information regarding the use and application of the FAA Industry Training Standards (FITS) concepts.

As noted in the FAA review letter, *Cleared for Hire* may also be used with a 14 CFR part 61 commercial pilot training curriculum when adjusted for the part 61 requirements.

STEPS FOR BECOMING A COMMERCIAL PILOT

Earning a commercial pilot certificate is a major milestone in a pilot's career since it is the gateway to flying for hire. Your Cessna Pilot Center will explain in detail the course enrollment requirements shown below:
- Be at least 18 years old prior to course graduation (you can start training earlier).
- Hold at least a private pilot certificate.
- For a Part 141 course, hold an instrument rating or be concurrently enrolled in an instrument rating course.
- Hold a current third class medical certificate.
- Pass a test on aeronautical knowledge (this course prepares you for that test).
- Complete the required flight training for the course (see Appendix A).
- Pass a commercial pilot practical test.

COURSE ELEMENTS

The Cessna online pilot training
- Provides innovative and interactive learning exercises.
- Is accessible anywhere you have an Internet connection.

The unique design of the training program
- Integrates web-based knowledge sessions with flight scenarios.
- Ensures that before every flight you will have the required knowledge to succeed.

You and your instructor will discuss the schedule for your training and you will know
- When to complete the appropriate web-based knowledge instruction
- What to prepare for each flight scenario.

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

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

COURSE STRUCTURE

STAGES
The course is divided into three stages:
- Stage 1: Cross-Country, Night and Maneuvers Review
- Stage 2: Complex Airplanes and Commercial Pilot Maneuvers
- Stage 3: Commercial Pilot Practical Test Preparation

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

Stage 1: Cross-Country, Night and Maneuvers Review
    Phase 1: Learning Professional Cross-Country and Night Procedures
    Phase 2: Refining Navigation and Basic Maneuver Skills
    Phase 3: Building Cross-Country Experience

Stage 2: Complex Airplanes and Commercial Pilot Maneuvers
    Phase 4: Flying Complex Airplanes
    Phase 5: Flying Commercial Maneuvers

Stage 3: Commercial Pilot Practical Test Preparation
    Phase 6: Preparing for your Commercial Pilot Checkride
    Phase 7: Fine Tuning Skills
    Phase 8: Achieving Your Goal

SCENARIOS
There are multiple flight scenarios within each phase. The completion standards for the scenario tasks in each phase are found in that phase's 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. Progress Checks are required scenarios.

PROGRESS CHECKS
Each stage has at least one Progress Check at the end of the last phase of each stage. The progress checks are found:
- Stage 1, phase 2
- Stage 1, phase 3
- Stage 2, phase 4
- Stage 2, phase 5
- Stage 3, phase 8

PHASE SEQUENCE
The eight phases are:

1. LEARNING PROFESSIONAL CROSS-COUNTRY AND NIGHT PROCEDURES — In this phase you will review and gain experience in cross-country planning and execution, using electronic, pilotage, and DR navigation. You will control the aircraft and navigate referring only to the flight instruments and recover from unusual flight attitudes without looking outside. You will also perform recovery from power off and power on stalls.

2. REFINING NAVIGATION AND BASIC MANEUVER SKILLS — Here you will examine ADF and VOR systems and the use of RMI and HSI presentations. You will also refresh and sharpen your understanding of the different types of airspace and the operating considerations. You will also add to your cross-country experience exercising both visual and electronic navigation skills as well as those involved with short field and soft field takeoffs and landings. And finally, you will fly with another instructor for a progress check.

3. BUILDING CROSS-COUNTRY EXPERIENCE — In this phase you will expand your knowledge of weather theory and the reports, forecasts and charts used for preflight planning. You will also dig deeper into weight and balance concepts, calculations, proper loading, and CG changes due to fuel burn. In flight you will continue to build cross-country experience including a long flight with one leg that has a straight line distance of more than 250 nm, and you will complete another progress check.

4. FLYING COMPLEX AIRPLANES — Your knowledge concentration in this phase includes aerodynamic topics of stability, rate and radius of turn, CG effect on spins and load factor. You will also explore airspeed limitations and aerodynamic hazards including high-speed flight. Your flight scenarios involve using a complex airplane for normal operations, slow flight, stalls, instrument maneuvers and recovery from unusual attitudes. This phase is completed with a progress check.

5. FLYING COMMERCIAL MANEUVERS — In this phase, you will become knowledgeable about and then perform the commercial performance and ground reference maneuvers of Steep Spirals, Chandelles, Lazy Eights, Eights on Pylons, and Power-off 180° accuracy approaches. You will also study the environmental factors and review techniques for calculating aircraft performance under different conditions. You will wrap up this phase by completing a progress check.

6. PREPARING FOR YOUR COMMERCIAL PILOT CHECKRIDE — In this phase, you will study concepts involved with specialized operations, hazards, engines and propellers,

aeromedical factors, and key topics in the Aeronautical Information Manual. In flight, you will refine your skill with Commercial Pilot maneuvers and expand your proficiency and risk management skills involving cross-country operations.

7. FINE TUNING SKILLS — Here you will review the general Federal Aviation Regulations and become familiar with those more closely associated with Commercial operations. In flight, you will hone your skill with Commercial Pilot maneuvers and complete the final cross-country of this course.

8. ACHIEVING YOUR GOAL — In this final phase you will learn tips for making your checkride go more smoothly, and ways to manage the risks unique to being a commercial pilot. You will also review the commercial pilot flight maneuvers and participate in a one-on-one pre-check ride briefing with your instructor. You will complete the course with the Final Progress Check.

Since each phase builds on what you have learned before, it is important that you complete the phases in the proper sequence. However, some degree of flexibility is necessary.
- Weather and other factors may make it impractical to conduct a particular flight scenario while another may be possible.
- In this case your instructor, with the approval of the chief instructor, may suggest out-of-phase and out-of-stage scenarios that can be completed with the current conditions.
- If available at your flight school and approved for this course, you may complete all or portions of a flight scenario using an aviation training device, flight training device, or flight simulator.

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

PHASES
There are 8 phases of training. Each phase has
- _Required_ **Web-based Knowledge Instruction**
- _Suggested_ **Flight Scenarios**
- _Required_ **Phase Ground Training Checklists**
- _Required_ **Phase Proficiency Checklists**

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

Flight Scenarios
- Are placed in a suggested order of completion
- Can be flown
   - Once
   - More than once
   - Not at all
- Can be customized 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 and course library materials
    - Including FAA publications such as the Pilot's Handbook of Aeronautical Knowledge and Airplane Flying Handbook
    - Recorded as 'Instruction Given', 'Describe' or 'Explain'
        - 'Instruction Given' indicates that your instructor briefed you on the subject
        - 'Describe' indicates that you are able to describe the physical characteristics of the maneuver or knowledge area
        - 'Explain' indicates that you are able to describe the task or knowledge area and understand the underlying concepts, principles and procedures
    - Must be demonstrated to the 'Explain' level to complete the phase

Phase Proficiency Checklists
- Contain tasks that are to be completed 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
- Contain completion standards for the phase

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

It is 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
- 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 if they are applicable to your approved training course. It is possible that you could finish up the course and have to make up time at the end.

OVERALL SYSTEM USE

The Cessna Commercial Pilot course is designed to provide the most benefit when

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

- Prior to the next scenario, you
  - o Study the assigned materials
  - o Perform the necessary scenario planning

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

- During the preflight briefing
  - o Your instructor evaluates the applicable items on the Phase Ground Training Checklist
  - o 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
  - o You independently grade the applicable tasks on the Phase Proficiency Checklist
  - o Your instructor independently grades the tasks on the Phase Proficiency Checklist
  - o You then discuss the scenario outcome and compare grading
  - o 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)	Utilize risk management tools to assess and mitigate risk associated with the planned flight both during the preflight planning and in flight.
Aeronautical decision-making (ADM)	Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.
Situational Awareness (SA)	Be aware of all factors such as traffic, weather, fuel state, aircraft mechanical condition, and pilot fatigue level that may have an impact on the successful completion of the training scenario.
Controlled Flight Into Terrain (CFIT) Awareness	Understand, describe, and apply techniques to avoid CFIT during inadvertent encounters with IMC during VFR flight, periods of reduced visibility, or at night.

LEARNER-CENTERED GRADING

Learner-centered grading includes two parts
- Learner self-assessment
- A detailed debrief by the instructor

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

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

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

After independently evaluating the *actual scenario outcomes* compared to the *desired outcomes*
- You and your instructor come together to compare and discuss your individual evaluations during the postflight discussion

You and your instructor may disagree on the evaluations.
- This should be used as an opportunity to discuss the scenario further
- The instructor has the final authority in assigning the final grade for the desired outcomes

MANEUVER (TASK) GRADES

- **<u>Describe</u>** – 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.

- **<u>Explain</u>** – 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.

- **<u>Practice</u>** – 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.*

- **<u>Perform</u>** – 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.)

- **<u>Not Observed</u>** – 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

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.

KNOWLEDGE TEST
Cessna's online pilot training includes an FAA question review feature which
- Contains examples of FAA knowledge test questions
- Provides the answers and explanations of the correct and incorrect answer choices
- Prepares you to take a CPC practice test and the FAA knowledge test

Upon completing Phase 7, you will want to prepare for and take the FAA knowledge test. As a part of your preparation, your Cessna Pilot Center (CPC) will likely want you to take a practice graded test as a part of their course. The CPC test

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

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

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

When you have finished the test, your instructor will

- Review the results with you.
- 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, you and your instructor will agree on

- The assigned destination and route
- What you should accomplish during the flight
- Any additional requirements
- Any limitations regarding weather and airspace

PIC FLIGHTS

Pilot in Command (PIC) flights are flights that can be flown solo or as PIC with other individuals aboard (i.e. fellow pilots in training) per your flight schools policies and approved course. Again you and your instructor will agree on

- The assigned destination and route
- What you should accomplish during the flight
- Any additional requirements
- Any limitations regarding weather and airspace

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.

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 Commercial Pilot 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 commercial pilot privileges, limitations and flight operations

PHASE 7; 7.1.1 Documents and Certificates
Category, Class and Type Ratings
Pilot and Medical Certificates
Aircraft Categories

PHASE 7; 7.1.2 Responsibilities and Restrictions
Responsibilities
Restrictions

PHASE 7; 7.1.3 Recency, Checks and Experience
Recency
Checks and Experience

(4) Meteorology including critical weather situations and windshear recognition and avoidance, and the use of aeronautical weather reports and forecasts

(8) Significance and effects of exceeding aircraft performance limitations

PHASE 4; 4.1.6 Airspeed Limitations
    Maneuvering Speed
    Airspeed Indicator

PHASE 4; 4.1.5 Load Factor
    G Forces

PHASE 4; 4.1.7 Aerodynamic Hazards
    High Speed Flight

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

PHASE 1; 1.1.1 Inflight Calculations
    Fuel Consumption
    Wind Calculation
    Determining Wind Direction and Speed
    Time and Distance to the Station
    Time, Distance and Fuel to the Station
    Angle to Converge
    Isosceles Triangle

PHASE 1; 1.2.1 Details and Courses
    Chart Details

PHASE 1; 1.2.2 Charts and Courses
    Courses

PHASE 2; 2.1.5 Flight Instruments
    Instruments That Help You Turn

(10) Use of air navigation facilities

PHASE 2; 2.1.1 ADF Navigation
    Homing and Crosswinds
    Magnetic Bearing TO the Beacon
    Magnetic Bearing FROM the Beacon
    Finding Relative Bearing
    Intercept Angles

PHASE 2; 2.1.2 VOR Navigation
    Sensitivity and Checks
    Using Your VOR

(11) Aeronautical decision making and judgment

PHASE 6; 6.1.4 Staying Safe
    Managing Risks

PHASE 6; 6.1.8 Aeronautical Decision Making
    Making Decisions as a Pilot
    Classic Behavioral Traps
    Hazardous Attitudes
    Neutralizing Hazardous Attitudes
    Stress Management
    Using the "DECIDE" Model for Making Decisions

PHASE 8; 8.1.1 Now That you're About to Become a Commercial Pilot
    Managing the Risks When you're Being Paid to Fly
    The Consummate Professional

(12) Principles and functions of aircraft systems

PHASE 2; 2.1.3 RMI
    How to Use Your RMI
PHASE 2; 2.1.4 HSI
    Using Your HSI
PHASE 2; 2.1.5 Flight Instruments
    Instruments That Help You Turn
PHASE 6; 6.1.5 Engine Operations
    Engine Stress
    Oil
    Ignition Systems
    Mixture
    Carburetor Heat
PHASE 6; 6.1.6 Propellers
    Propeller Efficiency
    Constant Speed Propellers

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

PHASE 5; 5.1.1 Steep Turns and Steep Spirals
    The Whats and Whys of Steep Turns
    Load Factor and You
    How to Do Great Steep Turns
    Performing Steep Spirals
PHASE 5; 5.1.2 Chandelles
    Introduction to the Chandelle
    How to Do Chandelles
    Techniques for a Perfect Chandelle
PHASE 5; 5.1.3 Lazy Eights
    Introduction to Lazy Eights
    How to Do Lazy Eights
    Techniques for Perfect Lazy Eights
PHASE 5; 5.1.4 Eight on Pylons
    Introduction to Eights On Pylons
    How to Do Eights On Pylons
    Techniques for Perfect Eights On Pylons
PHASE 5; 5.1.5 Power-off Approach
    How to do Power-Off 180° Accuracy Approaches and Landings

(14) Night and high-altitude operations

PHASE 3; 3.1.7 Other Atmospheric Hazards
    Jet Stream
PHASE 6; 6.1.1 Some Flying Basics
    Night Flying and Avoiding Controlled Flight into Terrain
PHASE 6; 6.1.7 Aeromedical Factors
    Hypoxia and Carbon Monoxide
    Spatial Disorientation, Alcohol, Night Vision, and Fitness for Flight
PHASE 7; 7.1.7 Equipment Requirements
    Safety Belts, Oxygen and ELT's

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

> PHASE 2; 2.2.1 Class E Airspace
> > The Airspace System and Airways
> > Class E Airspace at Airports
> > Class E Airspace at Airports with Control Towers
>
> PHASE 2; 2.2.2 Class D Airspace
> > Class D Airspace Requirements and Use
>
> PHASE 2; 2.2.3 Class C Airspace
> > Class C Airspace Boundaries
> > Operating at Satellite Airports in Class C Airspace
>
> PHASE 2; 2.2.4 Class B Airspace
> > Flight Operations within Class B Airspace
>
> PHASE 2; 2.2.5 Class A Airspace
> > Flight Operations within Class A Airspace
> > Special Equipment Requirements for Class A, B, and C Airspace
>
> PHASE 2; 2.2.6 Speed Limits and Airports
> > Speed Limits
> > Airport Symbols
>
> PHASE 2; 2.2.7 Special Use Airspace
> > Military Use
>
> PHASE 2; 2.2.8 Weather Minimums
> > Basic VFR
> > Special VFR

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

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

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

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

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

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

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

GUARANTEE OF QUALITY

This multimedia online pilot training system is available 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.

```
┌─────────────────────────┐
│        Stage 1          │
│    Cross-Country, Night │
│   and Maneuvers Review  │
└─────────────────────────┘
```

PHASE 1	PHASE 2	PHASE 3
Learning Professional Cross-Country and Night Procedures	Refining Navigation and Basic Maneuver Skills	Building Cross-Country Experience
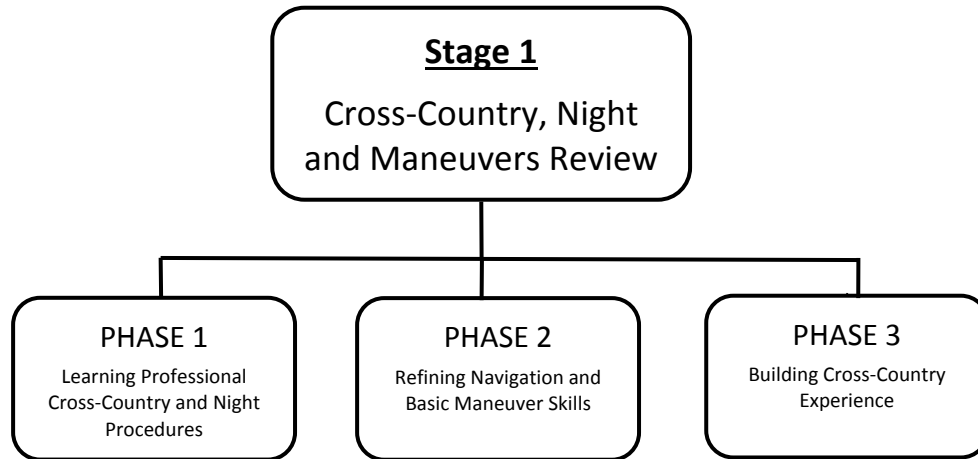
Stage 1 consists of three Phases
- Learning Professional Cross-Country and Night Procedures
- Refining Navigation and Basic Maneuver Skills
- Building Cross-Country Experience

Stage Objective: During this stage you will
- Review safe practices and checklist usage
- Demonstrate planning and piloting skills during a cross-country flights
- Build cross-country experience to multiple destinations
- Exercise and build skill with precise navigation using pilotage, DR, and electronic systems
- Increase proficiency with instrument control
- Quickly recognize and make an appropriate recovery from an aerodynamic stall
- Be able to recover from unusual flight attitudes referring only to the flight instruments
- Fly with a check instructor to evaluate your progress and instructor pairing

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.

Ver. 1.00

PHASE 1: Learning Professional Cross-Country and Night Procedures

Phase Objective: During this phase you will demonstrate, review and gain experience in
- Cross-country planning, charts, and in-flight navigation and procedures
- Use of electronic navigation systems
- Aircraft control and navigation using instrument reference
- Recovery from power off and power on stalls
- Recovery from unusual flight attitudes while using instrument reference
- Local and cross-country night operations
- Normal and crosswind takeoffs and landings

Web-based KNOWLEDGE

CROSS-COUNTRY PLANNING
SECTIONAL CHARTS

1.1 CROSS-COUNTRY PLANNING
Objectives: You will learn how to calculate how much fuel you are using during a flight and during a descent. You'll also discover how to calculate wind speed and direction at your altitude using your E-6B computer. And you'll see how angles between you and a navigation station can tell you how far away you are and how long it will take to get there.
1.1.1 Inflight Calculations
Fuel Consumption
Wind Calculation
Determining Wind Direction and Speed
Time and Distance to the Station
Time, Distance and Fuel to the Station
Angle to Converge
Isosceles Triangle

1.2 SECTIONAL CHARTS
Objective: You will learn how to determine the elevation of obstructions and terrain from your sectional charts. You'll also see how to use courses properly on the charts and some short cuts when you need to divert to a new course.
1.2.1 Details and Courses
Chart Details
1.2.2 Charts and Courses
Courses

FLIGHT SCENARIOS

CROSS-COUNTRY AND INSTRUMENT REFERENCE (DAY DUAL)
NIGHT MANEUVERS (DUAL)
CROSS-COUNTRY (DAY PIC)
NIGHT CROSS-COUNTRY (DUAL)
NIGHT MANEUVERS (SOLO)

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

<u>SCENARIO 1</u>: Cross-Country and Instrument Reference (Day Dual)

Objectives:
Conduct a cross-country flight with your instructor to evaluate your piloting skills and to gain experience in cross-country flight operations. During a portion of this flight you will also exercise control and navigation referring only to the instruments.

Purpose/pressures (real or simulated):
You are working for a package delivery company serving remote small communities. Your company has a strong risk management policy, but widely advertises a near-perfect on-time delivery rate. You feel a personal pressure to meet the on-time commitment.

Where to go:
To at least one airport more than 100 nm from the departure airport

How to get there:
Pilotage, DR, VOR/ADF/GPS courses

Planned deviations:
As necessary to react to inadvertent IMC

Planned malfunctions:
None

Risks (real or simulated):
Marginal VFR at departure, destination expected better
Unfamiliar destination

Preflight Discussion:

New this scenario:
Risk Management
Cross-Country Flight Planning
Preflight Inspection/Checklist Use
Fire Extinguisher
Doors, Safety Belts and Shoulder Harnesses
Engine Starting and Warmup
Use of ATIS
Taxiing and Runway Incursion Avoidance
Before Takeoff Check, Engine Runup and Checklist Use
Normal and Crosswind Takeoff and Climb
Tower Controlled Airports/High Density Airport Operations
Departure
Opening/Closing Flight Plans
Use of Approach and Departure Control and Center Radar Services
Course Interception
Pilotage
Dead Reckoning
Attitude Instrument Flying (IR)
Intercepting and tracking VOR Courses (IR)
Intercepting and tracking ADF/GPS Courses (IR) (if aircraft equipped)
Power Settings and Mixture Control
Diversion to an Alternate
Lost Procedures
Simulated System and Engine Failures
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing
Postflight Procedures

Postflight Discussion:

SCENARIO 2: Night Maneuvers (Dual)

Objective:
Gain experience in night operations that will allow you to fly at night with more precision and confidence including recovering from unusual attitudes using instrument reference only.
Purpose/pressures (real or simulated):
Night area familiarization, maneuvers refresher, and takeoff and landing currency in preparation for upcoming night revenue 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
Planned deviations:
As necessary to react to inadvertent IMC
Planned malfunctions:
None
Risks (real or simulated):
Unreported low ceilings and visibilities en route (VFR pilot possibly flying into IMC / spatial disorientation)

Preflight Discussion:

New this scenario:
Night Flight
Risk Management
Taxiing and Runway Incursion Avoidance
Normal and Crosswind Takeoffs and Climbs (night)
Constant Airspeed Climbs
Constant Airspeed Descents
Recovery from Unusual Attitudes (IR)
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Local VFR Navigation (night)
Normal Approaches and Landings with/Without Landing Light

Postflight Discussion:

SCENARIO 3: Cross-Country (Day PIC)

Objective:
Gain experience in cross-country flight operations.
Purpose/pressures (real or simulated):
You are flying a frequent charter customer to an essential meeting at her remote manufacturing plant.
Where to go:
To at least one airport more than 100 nm from the departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses, airways
Planned deviations:
None
Planned malfunctions:
GPS failure
Risks (real or simulated):
Ceiling drops as you approach your destination (inadvertent IMC and possible loss of control)

Preflight Discussion

Improving your skills:
Risk Management
Cross-Country Flight Planning
Preflight Inspection/Checklist Use
Taxiing and Runway Incursion Avoidance
Normal and Crosswind Takeoff and Climb
Departure
Opening Flight Plan
Radar Services
Course Interception
Pilotage
Dead Reckoning
VOR Navigation
ADF Navigation (if aircraft equipped)
GPS Navigation (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Normal and Crosswind Landing
Collision Avoidance Procedures
Closing your Flight Plan
After Landing, Parking and Securing

Postflight Discussion

Stage 1, Phase 1: Learning Professional Cross-Country and Night Procedures

<u>SCENARIO 4</u>: Night Cross-Country (Dual)

Objective:
Conduct a cross-country flight at night with your instructor to gain experience in night cross-country flight operations. You will control the airplane using instrument reference while intercepting and tracking navigation systems.
Purpose/pressures (real or simulated):
You are flying a surgical team to a distant city to obtain donor organs for a critical patient. The organs' viability allows you a two and a half hour window for an hour and a half flight.
Where to go:
To at least one airport more than 100 nm from the departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses, airways
Planned deviations:
As necessary for weather
Planned malfunctions:
Emergencies as introduced by the instructor
Risks (real or simulated):
Isolated non-embedded thunderstorms

Preflight Discussion

New this scenario:
Night Cross-Country Flight
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Cross-Country Flight Planning
Taxiing and Runway Incursion Avoidance
Pilotage
Dead Reckoning
Attitude Instrument Flying (IR)
Intercepting and Tracking Navigation Systems (IR)
Emergency Operations
Go-Around (night)
Use of Unfamiliar Airports (night)
Collision Avoidance Precautions
Diversion to Alternate
Lost Procedures
Normal Approaches and Landings with/without Landing Light

Postflight Discussion

SCENARIO 5: Night Maneuvers (Solo)

Objective:
Gain experience in night operations in the local area as well as at an airport with an operating control tower.
Purpose/pressures (real or simulated):
You are a videographer who has been contracted by a local land development company to take night video of proposed sites. The contracted editor needs the footage by 8 am tomorrow.
Where to go:
A point within 30 minutes flight time in suitable airspace free from obstructions and dense traffic and to an airport with an operating control tower (if not available at home field)
How to get there:
Pilotage
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Forecast low ceilings and visibility two hours after your planned landing

Preflight Discussion

Improving Your Skills:
Risk Management
Normal and Crosswind Takeoffs and Climbs (night)
Constant Airspeed Climbs
Constant Airspeed Descents
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Local VFR Navigation (night)
Normal Approaches and Landings with Landing Light

Postflight Discussion

Stage 1, Phase 1: Learning Professional Cross-Country and Night Procedures

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
Cross-country flight planning			
PAVE checklist			
Aircraft systems			
Aircraft flight instruments and navigation equipment			
Instrument cockpit check			
Runway incursion avoidance procedures			
Spin awareness			
Recovery from unusual attitudes			
Lost procedures			
Single-pilot resource management (SRM)			
Commercial Pilot Practical Test Standards (PTS)			

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			
Risk management *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*		▩	
Controlled Flight into Terrain awareness (CFIT) *Aware of potential terrain and obstacles along intended route and diversion to alternates, uses tools available*		▩	
Preflight procedures			
Cross-country flight planning *Plans assigned X-C accurately and completely using appropriate resources*			▩
Preflight inspection/checklist use *Performs preflight inspection using the checklist to confirm that all steps have been completed*			▩
Fire extinguisher *Knows location and can describe/demonstrate use (without activating or breaking seals)*			▩
Doors, safety belts, and shoulder harnesses *Demonstrates operation, explains when safety belt and shoulder harness use is required*			▩
Engine starting and warmup *Positions airplane appropriately, uses checklist and safety procedures considering other persons/property*			▩
Use of ATIS *Obtains, records and correctly interprets ATIS information*			▩
Taxiing and runway incursion avoidance procedures *Records taxi instructions, uses airport diagram, applies full attention to taxiing*			▩
Before takeoff check, engine runup and checklist use *Uses checklist for preflight and all phases of flight*			▩
In-flight			
Normal and crosswind takeoff and climb *Rejected TO procedures, checks wind, rotates recommended V_R, climb power, configuration $V_Y \pm 5kts$*			▩
Normal and crosswind takeoffs and climbs (night) *Checks lights, instruments, wind and power before TO, cross checks instruments in climb, $V_Y \pm 5kts$*			▩

Phase 1 Proficiency Checklist *continued*

Tower controlled airports/high density airport operations *Uses appropriate procedures and radio communications, aware of airspace boundaries*			
Departure *Complies with appropriate procedures for that airspace/airport and ATC instructions*			
Opening/closing flight plans *Uses appropriate procedures and frequencies*			
Use of approach and departure control and center radar services *Uses correct frequencies and procedures to access services*			
Course interception *Anticipates and recognizes when intercepting planned course*			
Pilotage *Flies course by preplanned landmarks, identifies landmarks by surface features to chart symbols*			
Dead reckoning *Maintains navigation log, demonstrates mag compass use, track ± 1 nm of route, ETA ±3 min*			
Attitude instrument flying (IR) *Maintains Alt ± 100 ft, Hdg ± 10°, A/S ± 10 kts*			
Intercepting and tracking VOR courses (IR) *Tracks VOR courses ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			
Intercepting and tracking ADF/GPS courses (IR) (if aircraft equipped) *Tracks GPS and/or ADF courses ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			
Power settings and mixture control *Sets engine controls conforming to manufacturer's procedures and flight plan*			
Diversion to an alternate *Chooses appropriate alternate and route, accurate ETA, fuel estimate, Alt ±100 feet, Hdg ± 10*			
Lost procedures *Uses appropriate procedures and confirms position*			
Simulated system and engine failures *Uses recommended procedures*			
Estimates of ground speed and ETA *Arrives at checkpoints and destination ±3 minutes*			
Position fix by navigation facilities *Verifies position using VOR, ADF, or GPS*			
Flight on Federal Airways *Chooses appropriate altitudes, maintains courses ± ¾ scale deflection, altitude ±100 feet*			
CTAF (UNICOM) airports *Appropriate entry procedures, radio calls, collision avoidance, spacing, Alt ±100 feet, A/S ± 10 kts*			
At least one landing more than 100 nm from departure airport *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			
Constant airspeed climbs *Maintains A/S ± 10 kts, Hdg ± 10°, levels Alt ± 100 ft*			
Constant airspeed descents *Maintains A/S ± 10 kts, Hdg ± 10°, levels Alt ± 100 ft*			
Recovery from unusual attitudes (IR) *Applies correct recovery control inputs using only instrument reference*			
Power off stall (approach to landing stall) *Enters at alt so recovery ≥ 1,500 ft AGL, Hdg ± 10, bank ± 5° (if turn), appropriate flap and gear up*			
Power on stall (takeoff and departure stall) *Enters at alt so recovery ≥ 1,500 ft AGL, Hdg ± 10, bank ± 10° (if turn), appropriate flap and gear up*			
Local VFR Navigation (night) *Identifies landmarks, conforms to airspace procedures, aware of obstructions and minimum altitudes*			
Emergency operations *Prioritizes actions, follows appropriate checklist procedures, maintains control*			
Use of unfamiliar airports (night) *Knows airport layout, facilities, terrain, preplans traffic pattern entry, approach and go-around*			
Normal and crosswind landing *Uses stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maintains X-W correction*			
Normal approaches and landings (night with/without landing light) *Uses stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maintains X-W correction*			

Phase 1 Proficiency Checklist *continued*

Go-around (night) *Makes timely decision, climb power and pitch for V_X/V_Y, +10/-5 kts, flaps & gear up as appropriate*			
Collision avoidance procedures *Conforms to regulations and procedures and employs an effective scanning for other aircraft*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 1 completion standards:

You have completed Phase 1 when you
- Show accurate preflight planning for visual day and night cross-country flights
- Demonstrate effective use of electronic navigation systems
- Employ effective risk management techniques for both local and cross-country flights
- Control the airplane safely and effectively using instrument reference
- Demonstrate recognition and effective recovery procedures from power off and power on stalls and recovery from unusual flight attitudes while only using instrument reference
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Review your home study results with your instructor

INSTRUCTOR NOTES:

PHASE 2: Refining Navigation and Basic Maneuver Skills

Phase Objective: During this phase you will review and explore in depth
- ADF and VOR navigation concepts
- Navigation using an RMI and HSI
- Using visual and electronic navigation techniques while building cross-country experience
- Governing principles of different types of airspace and VFR weather minimums
- Short field and soft field takeoff and landing techniques, and
- Complete a progress check

Web-based KNOWLEDGE

RADIO NAVIGATION AND FLIGHT INSTRUMENTS
AIRSPACE AND WEATHER MINIMUMS

2.1 RADIO NAVIGATION AND FLIGHT INSTRUMENTS
Objective: You will discover how using just a little basic math and your ADF radio will get you to a station. You'll also see how to use an RMI and an HSI to tell you where you are from a VOR station. And you'll find out how some of your flight instruments can help you make a perfect turn.

    2.1.1 ADF Navigation
        Homing and Crosswinds
        Magnetic Bearing TO the Beacon
        Magnetic Bearing FROM the Beacon
        Finding Relative Bearing
        Intercept Angles

    2.1.2 VOR Navigation
        Sensitivity and Checks
        Using Your VOR

    2.1.3 RMI
        How to Use Your RMI

    2.1.4 HSI
        Using Your HSI

    2.1.5 Flight Instruments
        Instruments That Help You Turn

2.2 AIRSPACE AND WEATHER MINIMUMS
Objective: You will learn how the airspace system is put together, so that no matter where you fly, you will know and understand it.

    2.2.1 Class E Airspace
        The Airspace System and Airways
        Class E Airspace at Airports
        Class E Airspace at Airports with Control Towers

    2.2.2 Class D Airspace
        Class D Airspace Requirements and Use

    2.2.3 Class C Airspace
        Class C Airspace Boundaries
        Operating at Satellite Airports in Class C Airspace

    2.2.4 Class B Airspace
        Flight Operations within Class B Airspace

    2.2.5 Class A Airspace
        Flight Operations within Class A Airspace
        Special Equipment Requirements for Class A, B, and C Airspace

    2.2.6 Speed Limits and Airports
        Speed Limits
        Airport Symbols

        Ver. 1.00

Stage 1, Phase 2: Refining Navigation and Basic Maneuver Skills

2.2.7 Special Use Airspace
Military Use
2.2.8 Weather Minimums
Basic VFR
Special VFR

<u>FLIGHT SCENARIOS</u>

CROSS-COUNTRY (DAY PIC)
NIGHT MANEUVERS (SOLO)
NIGHT CROSS-COUNTRY (SOLO)
CROSS-COUNTRY (DAY PIC)
CROSS-COUNTRY AND PROGRESS CHECK (DUAL)

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

SCENARIO 1: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations.

Purpose/pressures (real or simulated):
You are taking an out and return parts run to an airport outside the local area to drop off a tire and brake assembly for a stranded pilot. You only have an extra 15 minutes in addition to your ETE to get there before the mechanic runs out of time to complete the job today.

Where to go:
An airport greater than 100 nautical miles straight-line distance from departure

How to get there:
Pilotage, DR, VOR/ADF/GPS courses

Planned deviations:
None

Planned malfunctions:
None

Risks (real or simulated):
Intermittent rain showers and a late-in-the day return

Preflight Discussion

Improving your skills:
Risk Management
Cross-Country Flight Planning
Preflight inspection/Checklist usage
Runway Incursion Avoidance
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plans
Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF/GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 2: Night Maneuvers (Solo)

Objective:
You'll gain experience in night operations in the local area as well as at an airport with an operating control tower.
Purpose/pressures (real or simulated):
You are flying a newspaper photo journalist for a night shoot of the local area. Low cloud cover has cancelled two previously scheduled evening attempts and tonight is the last opportunity to meet the story deadline.
Where to go:
A point within 15 minutes flight time that is in suitable airspace free from obstructions and dense traffic
How to get there:
Pilotage, NAVAIDS
Planned deviations:
Deviation to alternative airport (simulated) due to low ceiling formation at home airport
Planned malfunctions:
NAVAID failure
Risks (real or simulated):
Low clouds are expected to form 3-hours after your scheduled takeoff. You estimate that you will only need 1 hour and 20 minutes to complete the shoot.

Preflight Discussion

Improving your skills:
Risk Management
Situational Awareness (SA)
Normal and Crosswind Takeoffs and Climbs (night)
Constant Airspeed Climbs
Constant Airspeed Descents
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Local VFR Navigation (night)
Normal Approaches and Landings (night)

Postflight Discussion

<u>SCENARIO 3</u>: Night Cross-Country (Solo)

Objective:
You'll improve your night operations proficiency by conducting a solo cross-country flight with a landing at a minimum of three points. One leg of the flight will include a straight-line distance of at least 250 nm.
Purpose/pressures (real or simulated):
You fly for a charter operator who has a contract with a document courier service. Your schedule this evening involves flying to three remote city destinations to pick up legal documents necessary for next-day's morning court docket.
Where to go:
To at least two other airports with one leg of at least 250 nm straight-line distance
How to get there:
Pilotage, DR, VOR/ADF/GPS courses, airways
Planned deviations:
Deviation (simulated) to deal with cockpit lighting failures
Planned malfunctions:
Simulated loss of cockpit lights
Risks (real or simulated):
Navigation and control using portable lights

Preflight Discussion

Improving your skills:
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Situational Awareness (SA)
Cross-Country Flight Planning
Preflight inspection/Checklist Use
Normal and Crosswind Takeoff and Climbs (night)
Departure
Opening/Closing Flight Plans
Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF/GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Leg a Straight-Line Distance More Than 250 nm
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Stage 1, Phase 2: Refining Navigation and Basic Maneuver Skills

<u>SCENARIO 4</u>: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations.
Purpose/pressures (real or simulated):
You are flying a charter and the passengers are the owner of a local RV dealership chain and her associate for the purpose of visiting one of their remote sites for several hours of meetings. Your passengers requested that you overfly a small city 10 miles off the direct route for an aerial view of a potential new business site.
Where to go:
An airport over 100 nm away
How to get there:
Pilotage, DR, VOR/ADF/GPS courses, airways
Planned deviations:
To a suitable airport to deal with lowering ceilings (simulated)
Planned malfunctions:
None
Risks (real or simulated):
Departure airport weather is broken at 2,800 feet, reported as scattered about 20 miles en route, and clear at destination

Preflight Discussion

Improving your skills:
Risk Management
Cross-Country Flight Planning
Preflight Inspection/ Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plans
Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF/GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Phase 2 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Class G and Class E airspace			
Class D and Class C airspace			
Class B airspace			
Class A airspace			
Special Use Airspace			
Instrument cockpit checks			
GPS RAIM and WAAS Fault Detection and Exclusion			
VOR Checks			
Pilot certificates and documents			
Aircraft airworthiness			
Controlled Flight into Terrain Awareness (CFIT)			
Situational Awareness (SA)			
Soft field techniques			
Short field techniques			

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			
Risk management *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*		▒	
Controlled Flight into Terrain awareness (CFIT) *Aware of potential terrain and obstacles along intended route and diversion to alternates, uses tools available*		▒	
Situational Awareness (SA) *Identifies potential ground and airborne SA risks; understands and uses tools available to enhance SA*		▒	
Preflight procedures			
Cross-country flight planning *Plans assigned X-C accurately and completely using appropriate resources*			▒
Preflight inspection/checklist use *Performs preflight inspection using the checklist to confirm that all steps have been completed*			▒
Runway incursion avoidance *Uses airport diagrams, maintains situational awareness, and complies with ATC instructions as necessary*			▒
In-flight			
Normal and crosswind takeoff and climb *Rejected TO procedures, checks wind, rotates recommended V_R, climb power, configuration $V_Y \pm 5kts$*			▒
Normal and crosswind takeoffs and climbs (night) *Checks lights, instruments, wind and power before TO, cross checks instruments in climb, $V_Y \pm 5kts$*			▒
Departure *Complies with appropriate procedures for that airspace/airport and ATC instructions*			▒
Opening/closing flight plans *Uses appropriate procedures and frequencies*			▒

Ver. 1.00

Phase 2 Proficiency Checklist *continued*

Radar services *Uses correct frequencies and procedures to access services*			
Course interception *Anticipates and recognizes when intercepting planned course*			
Pilotage *Flies course by preplanned landmarks, identifies landmarks by surface features to chart symbols*			
Dead reckoning *Maintains navigation log, demonstrates mag compass use, track ± 1 nm of route, ETA ±3 min*			
Intercepting and tracking VOR courses *Tracks VOR courses ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			
Intercepting and tracking ADF/GPS courses (if aircraft equipped) *Tracks GPS and/or ADF courses ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			
Power settings and mixture control *Sets engine controls conforming to manufacturer's procedures and flight plan*			
Estimates of ground speed and ETA *Arrives at checkpoints and destination ±3 minutes*			
Position fix by navigation facilities *Verifies position using VOR, ADF, or GPS*			
Flight on Federal Airways *Chooses appropriate altitudes, maintains courses ± ¾ scale deflection, altitude ±100 feet*			
CTAF (UNICOM) airports *Appropriate entry procedures, radio calls, collision avoidance, spacing, Alt ±100 feet, A/S ± 10 kts*			
At least one landing more than 100 nm from departure airport *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			
At least one leg with a straight-line distance more than 250 nm *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			
Constant airspeed climbs *Maintains A/S ± 10 kts, Hdg ± 10°, levels Alt ± 100 ft*			
Constant airspeed descents *Maintains A/S ± 10 kts, Hdg ± 10°, levels Alt ± 100 ft*			
Power off stall (approach to landing stall) *Enters at alt so recovery ≥ 1,500 ft AGL, Hdg ± 10, bank ± 5° (if turn), appropriate flaps and gear*			
Power on stall (takeoff and departure stall) *Enters at alt so recovery ≥ 1,500 ft AGL, Hdg ± 10, bank ± 5° (if turn), appropriate flaps and gear*			
Local VFR Navigation (night) *Identifies landmarks, conforms to airspace procedures, aware of obstructions and minimum altitudes*			
Normal and crosswind landing *Uses stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maintains X-W correction*			
Normal approaches and landings (night) *Uses stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maintains X-W correction*			
Collision avoidance procedures *Conforms to regulations and procedures and employs an effective scanning for other aircraft*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 2 completion standards:
You have completed Phase 2 when you
- Understand and effectively utilize available electronic systems and displays
- Understand all airspace classes and special use airspace
- Conform to airspace restrictions and weather minimums during cross-country flights
- Achieve a "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Review your home study results with your instructor
- Complete the Progress Check

INSTRUCTOR NOTES:

<u>SCENARIO 5</u>: Cross-Country and Progress Check (Dual)

Objective:
You'll learn how to use airports that have short or soft runways while on a cross-country flight. You will control the airplane and navigate using instrument reference under simulated primary flight instrument failure. You'll also learn how to make a 180° power off accuracy approach and landing.
For the Progress Check you will have a chance to demonstrate your proficiency in planning and flying a cross-country flight according to the completion standards for a commercial pilot. It is recommended that the Chief/Assistant Chief Flight Instructor give this flight lesson.

Purpose/pressures (real or simulated):
You are scheduled to deliver urgently needed farm equipment parts to two private ranch airfields—one with a 3,000 foot turf runway that has not been mowed for a few weeks due to frequent rains and the other with a 2,000 foot runway with trees over 60 feet tall at either end.

Where to go:
To at least one airport more than 100 nm from the departure airport

How to get there:
Pilotage, DR, VOR/ADF/GPS courses

Planned deviations:
Inadvertent IMC en route

Planned malfunctions:
Primary flight instrument failure

Risks (real or simulated):
Stress that arises with having your performance evaluated

Preflight Discussion

New this scenario:
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Accuracy Approach and Landing
Partial Panel (IR)

Testing your Skills:

Cross-Country Flight Planning
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Situational Awareness (SA)
Preflight Inspection/Checklist Use
Runway Incursion Avoidance
Opening/Closing Flight Plans
Pilotage
Dead Reckoning
Attitude Instrument Flying (IR)
Intercepting and Tracking VOR Courses (IR)
Intercepting and Tracking ADF Navigation (IR)
    (if equipped)
Intercepting and Tracking GPS Navigation (IR)
    (if equipped)
Recovery from Unusual Attitudes (IR)

Power Settings and Mixture Control
Diversion to an Alternate
Lost Procedures
Simulated Systems Failures
Simulated Engine Failure
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from
    Departure Airport
Normal and Crosswind Landing
Collision Avoidance Procedures
Closing Your Flight Plan
After Landing, Parking and Securing

Postflight Discussion

Stage 1, Phase 2: Refining Navigation and Basic Maneuver Skills

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			
Risk management *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*		▨	
Controlled Flight into Terrain awareness (CFIT) *Aware of potential terrain and obstacles along intended route and diversion to alternates, uses tools available*		▨	
Situational Awareness (SA) *Identifies potential ground and airborne SA risks; understands and uses tools available to enhance SA*		▨	
Preflight procedures			
Cross-country flight planning *Plans assigned X-C accurately and completely using appropriate resources*			▨
Preflight inspection/checklist use *Performs preflight inspection using the checklist to confirm that all steps have been completed*			▨
Runway incursion avoidance *Uses airport diagrams, maintains situational awareness, and complies with ATC instructions as necessary*			▨
In-flight			
Short field takeoff and climb *Rejected TO procedures, checks wind, rotates recommended V_R, climb power/configuration V_x +5/-0kts*			▨
Soft field takeoff and climb *Flight controls/configuration to quickly maximize lift, rotates at lowest possible A/S, in Gnd Effect to V_X or V_Y*			▨
Opening/closing flight plans *Uses appropriate procedures and frequencies*			▨
Pilotage *Flies course by preplanned landmarks, identifies landmarks by surface features to chart symbols*			▨
Dead reckoning *Maintains navigation log, demonstrates mag compass use, track ± 1 nm of route, ETA ±3 min*			▨
Intercepting and tracking VOR courses (IR) *Tracks VOR courses ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			▨
Intercepting and tracking ADF courses (IR) (if aircraft equipped) *Tracks ADF courses ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			▨
Intercepting and tracking GPS courses (IR) (if aircraft equipped) *Tracks GPS ± ¾ scale deflection or ± 10° on an RMI, altitude ±100 feet*			▨
Power settings and mixture control *Sets engine controls conforming to manufacturer's procedures and flight plan*			▨
Diversion to an alternate *Chooses appropriate alternate and route, accurate ETA, fuel estimate, Alt ±100 feet, Hdg ± 10°*			▨
Lost procedures *Uses appropriate procedures and confirms position*			▨
Estimates of ground speed and ETA *Arrives at checkpoints and destination ±3 minutes*			▨
Position fix by navigation facilities *Verifies position using VOR, ADF, or GPS*			▨
Flight on Federal Airways *Chooses appropriate altitudes, maintains courses ± ¾ scale deflection, altitude ±100 feet*			▨
At least one landing more than 100 nm from departure airport *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			▨
CTAF (UNICOM) airports *Appropriate entry procedures, radio calls, collision avoidance, spacing, alt ±100 feet, A/S ± 10 kts*			▨
Attitude instrument flying (IR) *Maintains Alt ± 100 ft, Hdg ± 10°, A/S ± 10 kts*			▨
Partial panel (IR) *Maintains control Alt ± 150 ft, Hdg ± 15°, A/S ± 10 kts*			▨

Phase 2 *Progress Check* continued

Recovery from unusual attitudes (IR) *Applies correct recovery control inputs using only instrument reference*			
Simulated systems failures *Follows recommended procedures, selects suitable course of action*			
Simulated engine failure *Follows recommended procedures, best glide ± 10 kts, suitable landing site, in position to land in site chosen*			
Power off 180° accuracy approach and landing *Considers wind, obstructions, touches down at or within 200 feet beyond specified touchdown point*			
Short field approach and landing *Stabilized approach, ±5 kt, smooth roundout, touchdown -0/+100 ft specified pt, maintains X-W correction*			
Soft field approach and landing *Stabilized approach, ±5 kt, smooth roundout, touches down softly, no drift, aligned with runway*			
Normal and crosswind landing *Uses stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maintains X-W correction*			
Collision avoidance procedures *Conforms to regulations and procedures and employs an effective scanning for other aircraft*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 2 *Progress Check* completion standards:

You have completed the Phase 2 *Progress Check* when you
- Can efficiently plan and fly a cross-country flight
- Manage both actual and simulated flight risks
- Achieve a grade of Perform or Manage/Decide in all tasks

INSTRUCTOR NOTES:

PHASE 3: Building Cross-Country Experience

Phase Objective: During this phase you will review and explore in depth
- Weather theory, reports, forecasts and charts needed for complete preflight planning
- Weight and balance concepts, calculations, proper loading, and CG changes due to fuel burn, and
- Build cross-country experience including a long flight with one leg that has a straight line distance of more than 250 nm, and
- Complete a progress check

Web-based KNOWLEDGE

WEATHER
WEIGHT AND BALANCE

3.1 WEATHER
Objective: 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 don't just look out the window to get the weather, but you can get weather reports and forecasts from many different places.

    3.1.1 Measurements
        Standard Temperature and Pressure
    3.1.2 The Atmosphere
        Circulation
        Convection
    3.1.3 Moisture and Stability
        Elements of Air Stability
        Air Masses and Clouds
    3.1.4 Fog
        How Fog Forms
        How Wind Affects Advection Fog and Frontal Activity Fog
    3.1.5 Freezing Rain and Ice
        Frontal Occlusions
        Ice Pellets
    3.1.6 Thunderstorms
        The Stages of a Thunderstorm
        Thunderstorm Hazards
        Weather Radar
    3.1.7 Other Atmospheric Hazards
        Wind Shear and Turbulence
        Mountain Waves
        Jet Stream
    3.1.8 Sources of Weather Information
        FSS, WFO, TIBS and TWEBS
    3.1.9 Surface Observation Reports
        Remarks and SPECI Reports
        METAR
    3.1.10 Obtaining Weather Enroute
        PIREPs and EFAS
    3.1.11 Forecasts
        TAF
        Area Forecast
    3.1.12 Inflight Weather Advisories
        Overview of Inflight Weather Advisories
        SIGMETs, Convective SIGMETs and AIRMETS

3.1.13 In Flight Weather Broadcasts
Weather Advisory Broadcasts and HIWAS
3.1.14 Radar Weather
Radar Charts and Reports
3.1.15 Stability Chart
Composite Moisture Stability Chart
3.1.16 Observed Weather Charts
Surface Analysis Chart
Constant Pressure, Winds Aloft, and Weather Depiction Charts
3.1.17 Forecast Charts
Low and High Level Significant Weather Prog Charts

3.2 WEIGHT AND BALANCE
Objective: You will discover how to properly load your airplane and calculate where its center of gravity is located.
3.2.1 Weight and Balance Principles
Formulas and Definitions
3.2.2 Basic Problems
Locating the CG
3.2.3 Aircraft Loading Problems
Determining CG Envelope and Limits
CG After Fuel Burn
Weight Shift

FLIGHT SCENARIOS

CROSS-COUNTRY (DAY PIC)
CROSS-COUNTRY (DAY PIC)
CROSS-COUNTRY (DAY PIC)
LONG CROSS-COUNTRY (DAY SOLO)
CROSS-COUNTRY AND PROGRESS CHECK (DUAL)

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

Stage 1, Phase 3: Building Cross-Country Experience

<u>SCENARIO 1</u>: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations.
Purpose/pressures (real or simulated):
You fly for an expedited delivery service and are taking an added flight to deliver a critical climate control component for a major greenhouse flower grower. Unusually cold weather and equipment failure put the grower in danger of losing a significant portion of his crop. Snow and ice conditions have closed roads and prevented this flight for 3 days.
Where to go:
An airport a little over 100 nautical miles away
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Loss of navigation systems
Risks (real or simulated):
Low visibility and snow forecast in 6 hours after your departure

Preflight Discussion

Improving your skills:
Aeronautical Decision Making
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Taxiing and Runway Incursion Avoidance Procedures
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plans
Use of Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF Courses (if aircraft equipped)
Intercepting and Tracking GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Accuracy Approach and Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 2: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations.
Purpose/pressures (real or simulated):
You are flying a replacement airplane for a charter scheduled to leave from an outlying airport in two hours. The original aircraft has a passenger seat problem, and you will return it to home base for repair.
Where to go:
An airport over 100 nm from departure
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Simulated rugged terrain en route
Preflight Discussion

Improving your skills:
Aeronautical Decision Making
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plans
Use of Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF Courses (if aircraft equipped)
Intercepting and Tracking GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Accuracy Approach and Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Stage 1, Phase 3: Building Cross-Country Experience

SCENARIO 3: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations.
Purpose/pressures (real or simulated):
Your charter passenger is a surgeon who is performing multiple procedures in a remote hospital and returning the same day.
Where to go:
An airport over 100 nm from departure
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
As necessary to avoid low visibility in isolated rain showers
Planned malfunctions:
None
Risks (real or simulated):
Isolated rain showers en route

Preflight Discussion

Improving your skills:
Aeronautical Decision Making
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plans
Use of Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF Courses (if aircraft equipped)
Intercepting and Tracking GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Accuracy Approach and Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 4: Long Cross-Country (Day Solo)

Objective:
You'll improve your cross-country flight operations proficiency by conducting a solo cross-country flight landing at least three points. One leg of the flight will include a straight-line distance of at least 250 nm.
Purpose/pressures (real or simulated):
You are an air ambulance pilot transporting a critical automobile accident patient to a large city where specialized treatment is available. Your second leg involves taking a recovering patient to a third city near home, and the third leg is a Pt 91 (non-revenue) return to home base.
Where to go:
Two other airports where one leg is more than 250 nm miles straight-line distance
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
To a suitable airport as necessary for weather
Planned malfunctions:
GPS failure
Risks (real or simulated):
Departure airport weather is broken at 4,200 feet and tops are unknown as there are no PIREPS, destination is greater than 5,000 feet and 5.

Preflight Discussion

Improving your skills:
Aeronautical Decision Making
Risk Management
Controlled Flight into Terrain Awareness (CFIT)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plans
Use of Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR Courses
Intercepting and Tracking ADF Courses (if aircraft equipped)
Intercepting and Tracking GPS Courses (if aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (FSS or UNICOM) Airports
At Least One Leg a Straight-Line Distance More Than 250 nm
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Accuracy Approach and Landing
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Stage 1, Phase 3: Building Cross-Country Experience

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
Icing and freezing level information			
AWOS, ASOS and ATIS reports			
Windshear reports			
Convective Outlook Charts			
Loading the airplane you fly			

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			
Aeronautical decision making *Uses sound decision-making process, recognizes hazardous attitudes, appropriate response to changes*		▓	
Risk management *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*		▓	
Controlled Flight into Terrain awareness (CFIT) *Aware of potential terrain and obstacles along intended route and diversion to alternates, uses tools available*		▓	
Preflight procedures			
Cross-country flight planning *Plans assigned X-C accurately and completely using appropriate resources*			▓
Preflight inspection *Performs preflight inspection using the checklist to confirm that all steps have been completed*			▓
Checklist use *Appropriate use of checklist while maintaining proper visual scanning and division of attention*			▓
Taxiing and runway incursion avoidance procedures *Records taxi instructions, uses airport diagram, applies full attention to taxiing*			▓
In-flight			
Normal and crosswind takeoff and climb *Rejected TO proc, check/calc X-wind, corrects wind drift, rotates V_R, appro climb power, config, V_Y ± 5kts*			▓
Short field takeoff and climb *Rejected TO procedures, checks wind, rotates recommended V_R, climb power/configuration V_X +5/-0kts*			▓
Soft field takeoff and climb *Flight controls/configuration to quickly maximize lift, rotates at lowest possible A/S, in Gnd Effect to V_X or V_Y*			▓
Departure *Complies with appropriate procedures for that airspace/airport and ATC instructions*			▓

Phase 3 Proficiency Checklist *continued*

Opening/closing flight plans *Uses appropriate procedures and frequencies*			
Use of radar services *Understands range of services available, uses correct frequencies and procedures when accessing*			
Course interception *Anticipates and recognizes when intercepting planned course*			
Pilotage *Flies course by preplanned landmarks, identifies landmarks by surface features to chart symbols*			
Dead reckoning *Maintains navigation log, demonstrates mag compass use, corrects to track ± 1 nm of route, ETA ±3 min*			
Intercepting and tracking VOR courses *Intercepts & tracks VOR courses ± ½ scale deflection or ± 5° on an RMI, altitude ±50 feet*			
Intercepting and tracking ADF courses (if aircraft equipped) *Intercepts & tracks GPS and/or ADF courses ± ½ scale deflection or ± 5° on an RMI, altitude ±50 feet*			
Intercepting and tracking GPS courses (if aircraft equipped) *Intercepts & tracks GPS and/or ADF courses ± ½ scale deflection or ± 5° on an RMI, altitude ±50 feet*			
Power settings and mixture control *Sets engine controls conforming to manufacturer's procedures and flight plan*			
Estimates of ground speed and ETA *Arrives at checkpoints and destination ±3 minutes*			
Position fix by navigation facilities *Verifies position using VOR, ADF, or GPS*			
Flight on Federal Airways *Chooses appropriate altitudes, maintains courses ± ½ scale deflection, altitude ±100 feet*			
CTAF (UNICOM) airports *Appropriate entry procedures, radio calls, collision avoidance, spacing, Alt ±100 feet, A/S ± 10 kts*			
At least one landing more than 100 nm from departure airport *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			
At least one leg with a straight-line distance more than 250 nm *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			
Power off 180° accuracy approach and landing *Considers wind, obstructions, touches down at or within 200 feet beyond specified touchdown point*			
Short field approach and landing *Stabilized approach, ±5 kt, smooth roundout, touchdown -0/+100 ft specified pt, maintains X-W correction*			
Soft field approach and landing *Stabilized approach, A/S ±5 kt, smooth roundout, touches down softly, no drift, aligned with runway*			
Normal and crosswind landing *Stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maint X-W correct, no drift, aligned runwy*			
Collision avoidance procedures *Conforms to regulations and procedures and employs an effective scanning for other aircraft*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 3 completion standards:

You have completed Phase 3 when you
- Effectively employ available systems and techniques while demonstrating precise cross-country navigation
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Exercise short and soft field takeoff and landing techniques
- Review your home study results with your instructor
- Complete the Progress Check

INSTRUCTOR NOTES:

Ver. 1.02

Stage 1, Phase 3: Building Cross-Country Experience

SCENARIO 5: Cross-Country and Progress Check (Dual)

Objective:
You'll have a chance to demonstrate your ability to plan and fly a cross-country flight that meets the completion standards in the Commercial Pilot Practical Test Standards. It is recommended that the Chief/Assistant Chief Flight Instructor give this lesson.
Purpose/pressures (real or simulated):
You have an opportunity to do aerial survey work and you are being evaluated on your ability to use the instruments to precisely fly the airplane.
Where to go:
An airport at least 50 nm from departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Primary instrument or display failure (simulated)
Risks (real or simulated):
Stress that arises with having your performance evaluated

Preflight Discussion

Checking your knowledge and skills:

Aeronautical Decision Making
Risk Management
Controlled Flight into Terrain Awareness (CFIT
Situational Awareness
Task Management
Automation Management
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Fire Extinguisher
Doors, Safety Belts and Shoulder Harnesses
Engine Starting and Warmup
Use of ATIS
Taxiing and Runway Incursion Avoidance
Before Takeoff Check and Engine Runup
Normal and Crosswind Takeoff and Climb
Tower Controlled Airports/High Density Airport
    Operations
Departure
Opening/Closing Flight Plans
Use of Radar Services
Course Interception
Pilotage
Dead Reckoning
Attitude Instrument Flying (IR)
Intercepting and Tracking VOR Courses (IR)

Intercepting and Tracking ADF Courses (IR) (if
    aircraft equipped)
Intercepting and Tracking GPS Courses (IR) (if
    aircraft equipped)
Partial Panel (IR)
Recovery from Unusual Attitudes (IR)
Power Settings and Mixture Control
Diversion to an Alternate
Lost Procedures
Simulated Systems Failures
Simulated Engine Failure
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 50 nm from
    Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Accuracy Approach and Landing
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing
Postflight Procedures

Postflight Discussion

Phase3 *Progress Check*

Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Single-pilot resource management			
Aeronautical decision making		�	
Uses sound decision-making process, recognizes hazardous attitudes, appropriate response to changes			
Risk management		▧	
Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks			
Controlled Flight into Terrain awareness (CFIT)		▧	
Aware of potential terrain and obstacles along intended route and diversion to alternates, uses tools available			
Situational awareness		▧	
Identifies potential ground and airborne SA risks; understands and uses tools available to enhance SA			
Task management		▧	
Prioritizes tasks, completes in timely manner without distractions to flying, uses checklists			
Automation management		▧	
If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures			
Preflight procedures			
Cross-country flight planning			▧
Plans assigned X-C accurately and completely using appropriate resources			
Preflight inspection			▧
Performs thorough preflight inspection using the checklist to confirm that all steps have been completed			
Checklist use			▧
Appropriate use of checklist while maintaining proper visual scanning and division of attention			
Fire extinguisher			▧
Knows location and can describe/demonstrate use (without activating or breaking seals)			
Doors, safety belts, and shoulder harnesses			▧
Demonstrates operation, explains when safety belt and shoulder harness use is required			
Engine starting and warmup			▧
Positions airplane appropriately, uses checklist and safety procedures considering other persons/property			
Use of ATIS			▧
Obtains, records and correctly interprets ATIS information			
Taxiing and runway incursion avoidance procedures			▧
Records taxi instructions, uses airport diagram, applies full attention to taxiing			
Before takeoff check and engine runup			▧
Uses checklist, makes thorough pre-takeoff airframe and systems checks and engine runup			
In-flight			
Normal and crosswind takeoff and climb			▧
Rejected TO proced, check/calc X-wind, corrects wind drift, rotates V_R, appro climb power, config, V_Y ± 5kts			
Short field takeoff and climb			▧
Rejected TO procedures, checks wind, rotates recommended V_R, climb power/configuration V_x +5/-0kts			
Soft field takeoff and climb			▧
Flight controls/configuration to quickly maximize lift, rotates at lowest possible A/S, in Gnd Effect to V_X or V_Y			
Tower controlled airports/high density airport operations			▧
Uses appropriate procedures and radio communications, aware of airspace boundaries			
Departure			▧
Complies with appropriate procedures for that airspace/airport and ATC instructions			
Opening/closing flight plans			▧
Uses appropriate procedures and frequencies			
Use of radar services			▧
Understands range of services available, uses correct frequencies and procedures when accessing			
Course interception			▧
Anticipates and recognizes when intercepting planned course			
Pilotage			▧
Flies course by preplanned landmarks, identifies landmarks by surface features to chart symbols			

Phase3 *Progress Check* continued

Dead reckoning *Maintains navigation log, demonstrates mag compass use, corrects to track ± 1 nm of route, ETA ±3 min*			
Attitude instrument flying (IR) *Maintains Alt ± 50 ft, Hdg ± 8°, A/S ± 5 kts*			
Intercepting and tracking VOR courses (IR) *Tracks VOR courses ± ½ scale deflection or ± 5° on an RMI, altitude ± 50 feet*			
Intercepting and tracking ADF courses (IR) (if aircraft equipped) *Tracks ADF courses ± ¾ scale deflection or ± 10° on an RMI, altitude ± 50 feet*			
Intercepting and tracking GPS courses (IR) (if aircraft equipped) *Tracks GPS course ± ½ scale deflection or ± 5° on an RMI, altitude ± 50 feet*			
Partial panel (IR) *Maintains control Alt ± 100 ft, Hdg ± 10°, ± A/S 10 kts*			
Recovery from unusual attitudes (IR) *Applies correct recovery control inputs using only instrument reference*			
Power settings and mixture control *Sets engine controls conforming to manufacturer's procedures and flight plan*			
Diversion to an alternate *Chooses appropriate alternate and route, accurate ETA, fuel estimate, Alt ±100 feet, Hdg ± 10°*			
Lost procedures *Uses appropriate procedures and confirms position*			
Simulated systems failures *Follows recommended procedures, selects suitable course of action*			
Simulated engine failure *Follows recommended procedures, best glide ± 10 kts, suitable landing site, in position to land in site chosen*			
Estimates of ground speed and ETA *Arrives at checkpoints and destination ±3 minutes*			
Position fix by navigation facilities *Verifies position using VOR, ADF, or GPS*			
Flight on Federal Airways *Chooses appropriate altitudes, maintains courses ± ½ scale deflection, altitude ±100 feet*			
CTAF (UNICOM) airports *Appropriate entry procedures, radio calls, collision avoidance, spacing, Alt ±100 feet, A/S ± 10 kts*			
At least one landing more than 50 nm from departure airport *Reviews airport information, NOTAMS, forecast weather and plans alternative actions*			
Power off 180° accuracy approach and landing *Considers wind, obstructions, touches down at or within 200 feet beyond specified touchdown point*			
Normal and crosswind landing *Stabilized approach, A/S ±5 kt, smooth roundout and touchdown, maint X-W correct, no drift, aligned rway*			
Short field approach and landing *Stabilized approach, A/S ±5 kt, smooth roundout, touchdown -0/+100 ft specified pt, maintains X-W correction*			
Soft field approach and landing *Stabilized approach, A/S ±5 kt, smooth roundout, touches down softly, no drift, aligned with runway*			
Collision avoidance procedures *Conforms to regulations and procedures and employs an effective scanning for other aircraft*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 3 *Progress Check* completion standards:
You have completed the Phase 3 *Progress Check* when you
- Demonstrate sound single pilot resource management
- Manage both actual and simulated flight risks
- Complete all tasks evaluated as Manage/Decide or Perform

INSTRUCTOR NOTES:

```
┌─────────────────────────────────┐
│            Stage 2              │
│      Complex Airplanes and      │
│    Commercial Pilot Maneuvers   │
└─────────────────────────────────┘
              │
      ┌───────┴───────┐
┌─────────────┐   ┌─────────────┐
│   PHASE 4   │   │   PHASE 5   │
│Flying Complex│   │Flying Commercial│
│  Airplanes  │   │  Maneuvers  │
└─────────────┘   └─────────────┘
```
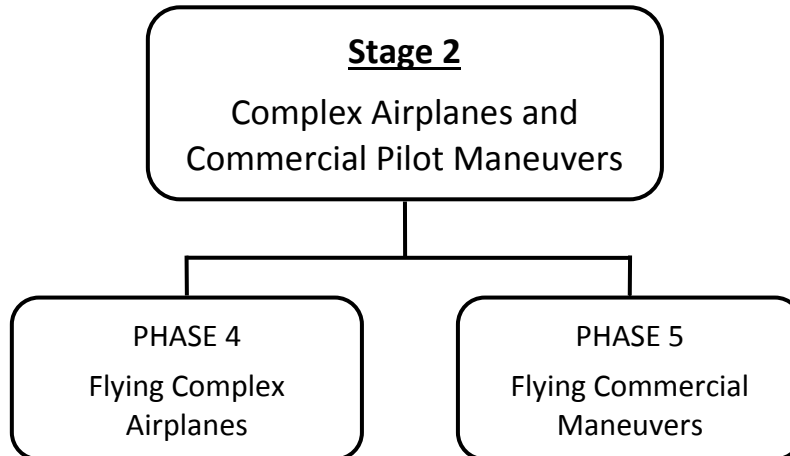
Stage 2 consists of two Phases
- Flying Complex Airplanes
- Flying Commercial Maneuvers

Stage Objective: During this stage you will
- Expand your knowledge of aerodynamics
- Become familiar with operating a complex airplane
- Study the objectives and techniques of the commercial pilot maneuvers
- Review the factors affecting performance and calculate takeoff, cruise and landing data
- Master the commercial pilot maneuvers
- Fly with a check instructor to check your course progress

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 4: Flying Complex Airplanes

Phase Objective: During this phase you will develop your knowledge, skills and confidence through:
- Studying aerodynamic topics of stability, rate and radius of turn, CG effect on spins and load factor
- Exploring airspeed limitations and aerodynamic hazards including high-speed flight
- Operating a complex airplane with retractable landing gear and a constant-speed propeller
- Performing visual and instrument maneuvers in a complex airplane
- Recovering from unusual flight attitudes referring only to flight instruments
- Demonstrating performance to standards during a progress check

Web-based KNOWLEDGE

AERODYNAMICS

4.1 AERODYNAMICS
Objective: You will learn the forces that act on an airplane when it is level, climbing, descending, and turning. In addition, you will learn why those forces change when flying very close to the ground. You'll also see how flaps, turning and where you load things in your airplane affect your airplane's performance.

> **4.1.1 Basic Aerodynamics**
> Angle of Attack and Lift
> What Will Change Your Stalling Speed
> How Flaps and Tabs Affect Your Airplane
>
> **4.1.2 Forces on an Aircraft**
> The Four Forces on Your Airplane
> Drag
> L/D Ratio and Slipstream
>
> **4.1.3 Stability**
> Static and Dynamic Stability
> Center of Gravity and Spins
>
> **4.1.4 Turns**
> Angle of Bank
> Rate and Radius
>
> **4.1.5 Load Factor**
> Total Loading and Wing Loading
> G Forces
>
> **4.1.6 Airspeed Limitations**
> Maneuvering Speed
> Airspeed Indicator
>
> **4.1.7 Aerodynamic Hazards**
> High Speed Flight
> Wingtip Vortices
> Ground Effect

FLIGHT SCENARIOS

COMPLEX AIRPLANE (DUAL)
COMPLEX AIRPLANE, STALLS AND INSTRUMENT REFERENCE (DUAL)
COMPLEX AIRPLANE, MANEUVERS AND PROGRESS CHECK (DUAL)

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

SCENARIO 1: Complex Airplane (Dual)

Objective:
You'll be introduced to the basic systems and flight operations of a complex airplane.

Purpose/pressures (real or simulated):
Your flight today is to take two clients to a mountain ski resort to survey a proposed construction site and return to home field.

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, DR, VOR/ADF/GPS courses

Planned deviations:
None

Planned malfunctions:
Landing gear fails to extend when selected

Risks (real or simulated):
Distraction due to unfamiliarity with complex airplane equipment
Failing to extend landing gear on approach to landing

Preflight Discussion

New this scenario:
Complex Airplane
Performance and Limitations
Preflight Inspection
Engine Starting and Taxiing
Before Takeoff Check
Normal and Crosswind Takeoff and Climb
Use of Retractable Landing Gear
Climbs and Descents
Power Settings and Mixture Leaning
Use of Constant Speed Propeller
Maneuvering During Slow Flight
Normal and Crosswind Landing
After Landing, Parking and Securing

Improving your skills:
Aeronautical Decision Making
Risk Management
Situational Awareness
Task Management

Postflight Discussion

SCENARIO 2: Complex Airplane, Stalls and Instrument Reference (Dual)

Objective:
You'll gain experience in complex airplane operations while in visual and simulated instrument conditions.
Purpose/pressures (real or simulated):
Your passengers are meeting business associates at a 30-minute distant airport to sign time-sensitive documents. Estimated time on the ground is 45 minutes. A VIP TFR is scheduled to include your airport in 4 hours.
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, DR, VOR/ADF/GPS courses
Planned deviations:
Route and destination changes for unforecast convective activity and airport conditions
Planned malfunctions:
Simulated loss of propeller control
Risks (real or simulated):
Low visibility due to forecast of intermittent light snow showers
TFR airspace violation due to missed NOTAM revisions

Preflight Discussion

New this scenario:
Complex Airplane
Power-Off Stall (approach to landing stall)
Power-On Stall (takeoff and departure stall)
Go-Around
Straight and Level Altitude Flight (IR)
Standard Rate Turns (IR)
Climbs and Climbing Turns (IR)
Descents and Descending Turns (IR)
Recovery from Unusual Flight Attitudes (IR)
Maneuvering During Slow Flight (IR)

Improving your skills:
Aeronautical Decision Making
Risk Management
Situational Awareness
Task Management
Performance and Limitations
Preflight Inspection
Engine Starting and Taxiing
Before Takeoff Check
Normal and Crosswind Takeoff and Climb
Use of Retractable Landing Gear
Climbs and Descents
Power Settings and Mixture Leaning
Use of Constant Speed Propeller
Maneuvering During Slow Flight
Normal and Crosswind Landing
After Landing, Parking and Securing

Postflight Discussion

Phase 4 Ground Training Checklist

*All items to be graded independently by the instructor and customer, then discussed and a final grade assessed. *Desired outcome for all tasks by the end of the phase is "Explain"*	Instruction Given	Describe	Explain
Landing gear systems and emergency extension			
Constant speed propeller mechanism and operation			
Run up and setting power with a constant speed propeller			
Loss of propeller control			
Good operational habits with retractable landing gear			

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			
Aeronautical decision making *Uses sound decision-making process, recognizes hazardous attitudes, appropriate response to changes*		▩	
Risk management *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*		▩	
Situational awareness *Identifies potential ground and airborne SA risks; understands and uses tools available to enhance SA*		▩	
Task management *Prioritizes tasks, completes in timely manner without distractions to flying, uses checklists*		▩	
Preflight procedures			
Performance and limitations *Aware of aircraft limitations, calculates performance, determines W&B, describes effects of different conditions*			▩
Preflight inspection *Performs preflight inspection using the checklist, understands the unique items for landing gear and propeller*			▩
Engine starting and taxiing *Correctly positions engine controls, checks landing gear switch down prior to applying electrical power*			▩
Before takeoff check *Positions aircraft, uses checklist, engine instruments ready for runup, follows manufacturer's procedures*			▩
In-flight			
Normal and crosswind takeoff and climb *PTS standards*			▩
Use of retractable landing gear *Understands normal and emergency operation, limitations, applies best operational procedures*			▩
Climbs and descents *Smoothly sets climb/descent power settings, establishes climb/descent attitudes, divides attention in and out*			▩
Power settings and mixture leaning *Smooth and correct engine management, appropriate power settings and mixture leaning*			▩
Use of constant speed propeller *Understands correct operation, response to failure, role in operational efficiency and performance*			▩
Maneuvering during slow flight *PTS standards*			▩
Approach to landing stalls *Can explain the causes, aerodynamics and techniques to prevent approach to landing stall accidents*			▩

Stage 2, Phase 4: Flying Complex Airplanes

Phase 4 Proficiency Checklist *continued*

Power-off stall (approach to landing stall) *PTS standards*			
Power-on stall (takeoff and departure stall) *PTS standards*			
Go-Around *PTS standards*			
Straight and level altitude flight (IR) *Maintains Alt ± 100 ft, Hdg ± 10°, A/S ± 5 kts*			
Standard rate turns (IR) *Maintains Alt ± 100 ft, A/S ± 5 kts, rolls out on Hdg ± 5°*			
Climbs and climbing turns (IR) *Maintains Hdg ± 5°, A/S ± 5 kts, levels Alt ± 100 ft*			
Descents and descending turns (IR) *Maintains Hdg ± 5°, A/S ± 5 kts, levels Alt ± 100 ft*			
Recovery from unusual flight attitudes (IR) *Applies appropriate pitch, bank, and power corrections in the correct sequence, smoothly returns to level flight*			
Maneuvering during slow flight (IR) *Maintains Alt ± 100 ft, Hdg ± 10°, A/S + 5/- 0 kts, specified angle of bank ± 5°*			
Normal and crosswind landing *PTS standards*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 4 completion standards:
You have completed Phase 4 when you
- Can perform the maneuvers in a complex airplane
- Maintain situational awareness while operating a complex airplane
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Review your home study results with your instructor
- Complete the Progress Check

INSTRUCTOR NOTES:

<u>SCENARIO 3</u>: Complex Airplane, Maneuvers and Progress Check (Dual)

Objective:
You'll use techniques to operate a complex airplane out of soft or short runways. You'll also discover how some of the systems in a complex airplane can malfunction and what you can do when it happens. For the Progress Check you will have a chance to demonstrate previously learned maneuvers according to the completion standards for this flight. It is recommended that the Chief/Assistant Chief Flight Instructor give this flight lesson.

Purpose/pressures (real or simulated):
In a 36 hour window between two storms, you are flying a two-person survey team and equipment to a remote runway (no facilities) on Federal lands. They have been delayed for several weeks, and the permit for this project expires in three days. They would have to wait nine months before another attempt is possible.

Where to go:
To a nearby area free of obstructions and dense traffic and an appropriate airport for short and soft field takeoffs and landings

How to get there:
Pilotage, DR, VOR/ADF/GPS courses

Planned deviations:
As necessary to deal with simulated malfunctions

Planned malfunctions:
Simulated landing gear extension failure, loss of prop control, electrical failure, engine failure

Risks (real or simulated):
Distraction due to complex airplane workload

Preflight Discussion

New this scenario:
Complex Airplane
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Simulated System Failures
Simulated Engine Failure
Accelerated Stall

Testing your skills:

Aeronautical Decision Making	Use of Constant Speed Propeller
Risk Management	Power-Off Stall (approach to landing stall)
Situational Awareness	Power-On Stall (takeoff and departure stall)
Task Management	Go-Around
Performance and Limitations	Maneuvering During Slow Flight
Preflight Inspection	Partial Panel (IR)
Engine Starting and Taxiing	Intercepting and Tracking Navigation Systems
Before Takeoff Check	(IR)
Normal and Crosswind Takeoff and Climb	Recovery from Unusual Flight Attitudes (IR)
Use of Retractable Landing Gear	Normal and Crosswind Landing
Climbs and Descents	After Landing, Parking and Securing
Power Settings and Mixture Leaning	

Postflight Discussion

Ver. 1.01

Stage 2, Phase 4: Flying Complex Airplanes

Phase 4 *Progress Check*

Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Single-pilot resource management			
Aeronautical decision making *Uses sound decision-making process, recognizes hazardous attitudes, appropriate response to changes*		�	
Risk management *Identifies risks both preflight and in-flight, evaluates options and chooses actions to mitigate the risks*		�	
Situational awareness *Identifies potential ground and airborne SA risks; understands and uses tools available to enhance SA*		�	
Task management *Prioritizes tasks, completes in timely manner without distractions to flying, uses checklists*		�	
Preflight procedures			
Performance and Limitations *Aware of aircraft limitations, calculates performance, determines W&B, describes effects of different conditions*			▮
Preflight inspection *Performs preflight inspection using the checklist, understands the unique items for landing gear and propeller*			▮
Engine starting and taxiing *Correctly positions engine controls, checks landing gear switch down prior to applying electrical power*			▮
Before takeoff check *Positions aircraft, uses checklist, engine instruments ready for runup, follows manufacturer's procedures*			▮
In-flight			
Normal and crosswind takeoff and climb *PTS standards*			▮
Use of retractable landing gear *Understands normal and emergency operation, limitations, applies best operational procedures*			▮
Climbs and descents *Smoothly sets climb/descent power settings, establishes climb/descent attitudes, divides attention in and out*			▮
Power settings and mixture leaning *Smooth and correct engine management, appropriate power settings and mixture leaning*			▮
Use of constant speed propeller *Smooth use of engine controls, stays within engine limitations, understands emergency procedures*			▮
Maneuvering during slow flight *PTS standards*			▮
Approach to landing stalls *Can explain the causes, aerodynamics and techniques to prevent approach to landing stall accidents*			▮
Power-off stall (approach to landing stall) *PTS standards*			▮
Power-on stall (takeoff and departure stall) *PTS standards*			▮
Go-around *PTS standards*			▮
Partial panel (IR) *Maintains control Alt ± 100 ft, Hdg ± 10°, A/S ± 10 kts, tracks courses ± ¾ scale deflection*			▮
Intercepting and tracking navigation systems (IR) *Tracks courses ± ½ scale deflection or ± 5° on an RMI, altitude ± 50 feet*			▮
Recovery from unusual flight attitudes (IR) *Recovers using proper pitch, power, and bank inputs and restores positive aircraft control*			▮
Short field takeoff and climb *PTS standards*			▮
Soft field takeoff and climb *PTS standards*			▮
Short field approach and landing *PTS standards*			▮

Phase 4 *Progress Check* continued

Soft field approach and landing *PTS standards*			
Power off 180° approach and landing *PTS standards*			
Simulated system failures *PTS standards*			
Simulated engine failure *PTS standards*			
Accelerated stall *Selects altitude allowing recovery by 3,000 AGL, suitable airspeed, smooth entry, recognition and recovery*			
Normal and crosswind landing *PTS standards*			
Postflight procedures			
After landing, parking and securing *Runway incursion avoidance procedures, completes appropriate checklists and postflight inspection*			

Phase 4 *Progress Check* completion standards:

You have completed the Phase 4 *Progress Check* when you
- Demonstrate sound single pilot resource management
- Manage both actual and simulated flight risks
- Complete all tasks evaluated as Manage/Decide or Perform

INSTRUCTOR NOTES:

PHASE 5: Flying Commercial Maneuvers

Phase Objective: During this phase you will
- Gain an understanding of the maneuvers unique to the Commercial Pilot practical test: Steep Spirals, Chandelles, Lazy Eights, Eights on Pylons, Power-off 180° Accuracy Approaches
- Study the environmental impact on aircraft performance and review techniques for calculating estimated performance under different conditions
- Master the commercial pilot maneuvers
- Complete a Progress Check

Web-based KNOWLEDGE

COMMERCIAL MANEUVERS
AIRCRAFT PERFORMANCE

5.1 COMMERCIAL MANEUVERS
Objective: You will be introduced to the Commercial Pilot performance and ground reference maneuvers, Steep Turns, Steep Spirals, Chandelles, Lazy Eights, Eights on Pylons and "Spot" Landings. You will learn the objective of each maneuver, proper entry, control coordination, key reference points, and completion. You will also learn how load factor affects you in a steep-bank maneuver and the relationship between ground speed, altitude and bank angle when visually keeping an airplane part aligned with a ground reference point. And finally, you will learn the common errors for each maneuver and methods to correct them.

       5.1.1 Steep Turns and Steep Spirals
           The Whats and Whys of Steep Turns
           Load Factor and You
           How to Do Great Steep Turns
           Performing Steep Spirals
       5.1.2 Chandelles
           Introduction to the Chandelle
           How to Do Chandelles
           Techniques for a Perfect Chandelle
       5.1.3 Lazy Eights
           Introduction to Lazy Eights
           How to Do Lazy Eights
           Techniques for Perfect Lazy Eights
       5.1.4 Eights on Pylons
           Introduction to Eights On Pylons
           How to Do Eights On Pylons
           Techniques for Perfect Eights On Pylons
       5.1.5 Power-off Approach
           How to do Power-Off 180° Accuracy Approaches and Landings

5.2 AIRCRAFT PERFORMANCE
Objective: You will learn how the temperature of the air affects the power of your engine. You'll also see how to calculate what that change does to your take-off distance, climb rate, fuel consumption and landing distance. And you'll be able to tell how much of a crosswind a crosswind really is.

       5.2.1 Pressure and Density Altitude
           Figuring Pressure and Density Altitude
           How Temperature Affects Turbine Engines and Airspeed Corrections

5.2.2 Takeoff and Climb
  Obstacle Takeoff
  Maximum Climb Rate
  Fuel Use with Maximum Climb
  Climbing to Cruise Altitude
  Normal Climb

5.2.3 Cruise Performance
  Maximum Flight Time
  Fuel Consumption vs. Percent Horsepower
  Endurance
  Available Flight Time

5.2.4 Landing
  Figuring the Wind Component
  Normal Landing

FLIGHT SCENARIOS

STEEP TURNS/SPIRALS, EMERGENCY DESCENT AND MANEUVERS REVIEW (DUAL)
CHANDELLES AND MANEUVERS REVIEW (DUAL)
MANEUVERS SKILL IMPROVEMENT (PIC)
LAZY EIGHTS AND MANEUVERS REVIEW (DUAL)
MANEUVERS SKILL IMPROVEMENT (PIC)
EIGHTS ON PYLONS AND MANEUVERS REVIEW (DUAL)
MANEUVERS SKILL IMPROVEMENT (PIC)
CROSS-COUNTRY (DAY PIC)
COMMERCIAL MANEUVERS REVIEW (DUAL)
PROGRESS CHECK (DUAL)

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

Stage 2, Phase 5: Flying Commercial Maneuvers

SCENARIO 1: **Steep Turns/Spirals, Emergency Descent and Maneuvers Review (Dual)**

Objective:
You'll learn the look and feel of steep banked turns, steep spirals and how to perform an emergency descent.
Purpose/pressures (real or simulated):
You are learning and refining maneuvers for the upcoming practical test.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Disorientation
Other air traffic while maneuvering

Preflight Discussion

New this scenario:
Steep Turns
Steep Spirals
Emergency Descent

Improving your skills:
Single Pilot Resource Management (SRM)
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Accelerated Stall
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Intercepting and Tracking Navigation Systems Partial Panel (IR)
After Landing, Parking and Securing

Postflight Discussion

<u>SCENARIO 2</u>: Chandelles and Maneuvers Review (Dual)

Objective:
You'll learn how to perform a 180 degree maximum climbing maneuver which places an emphasis on planning, coordination and orientation, the chandelle.
Purpose/pressures (real or simulated):
You are learning and refining maneuvers for the upcoming practical test.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Simulated engine failure
Simulated pressurization failure
Risks (real or simulated):
Disorientation
Other air traffic while maneuvering

Preflight Discussion

New this scenario:
Chandelles

Improving your skills:
Single Pilot Resource Management (SRM)
Steep Turns
Steep Spirals
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Emergency Descent
Power Off 180° Approach and Landing
Intercepting and Tracking Navigation Systems Partial Panel (IR)
After Landing, Parking and Securing

Postflight Discussion

Stage 2, Phase 5: Flying Commercial Maneuvers

<u>SCENARIO 3</u>: Maneuvers Skill Improvement (PIC)

Objective:
You'll improve your proficiency in commercial maneuvers.
Purpose/pressures (real or simulated):
You are refining maneuvers for the upcoming practical test.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Distractions
Other air traffic while maneuvering

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Chandelles
Steep Turns
Steep Spirals
After Landing, Parking and Securing

Postflight Discussion

<u>SCENARIO 4</u>: Lazy Eights and Maneuvers Review (Dual)

Objective:
You'll discover a maneuver where you'll want to change your altitude and direction every 90 degrees but not too quickly to keep your lazy eight really lazy.
Purpose/pressures (real or simulated):
You are learning and refining maneuvers for the upcoming practical test.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Primary instrument failure while in IMC (simulated)
Risks (real or simulated):
Distractions
Other air traffic while maneuvering

Preflight Discussion

New this scenario:
Lazy Eights

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Accelerated Stall
Intercepting and Tracking Navigation Systems (IR)
Partial Panel (IR)
Recovery from Unusual Attitudes (IR)
After Landing, Parking and Securing

Postflight Discussion

Stage 2, Phase 5: Flying Commercial Maneuvers

SCENARIO 5: **Maneuvers Skill Improvement (PIC)**

Objective:
You'll improve your proficiency in commercial maneuvers.
Purpose/pressures (real or simulated):
You are refining your skill with maneuvers for the upcoming practical test
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Distractions
Other air traffic while maneuvering

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Accelerated Stall
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 6: Eights on Pylons and Maneuvers Review (Dual)

Objective:
You'll learn how to vary your altitude as your ground speed changes to turn on a point on the ground.
Purpose/pressures (real or simulated):
You are learning and refining your skill with maneuvers for the upcoming practical test
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Engine failure (simulated)
Risks (real or simulated):
Distractions
Other air traffic while maneuvering

Preflight Discussion

New this scenario:
Eights On Pylons

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Attitude Instrument Flying (straight and level, turns, climbs & descents) (IR)
Intercepting and Tracking Navigation Systems Partial Panel (IR)
Recovery from Unusual Attitudes (IR)
After Landing, Parking and Securing

Postflight Discussion

Stage 2, Phase 5: Flying Commercial Maneuvers

<u>SCENARIO 7</u>: Maneuvers Skill Improvement (PIC)

Objective:
You'll improve your proficiency in commercial maneuvers.
Purpose/pressures (real or simulated):
You are refining your skill with maneuvers for the upcoming practical test
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Distractions
Other air traffic while maneuvering

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Eights On Pylons
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 8: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations.
Purpose/pressures (real or simulated):
You are flying to a remote city to deliver and pick up express cargo.
Where to go:
One or more airports with one more than 50 nm from departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Marginal visibility not forecast (simulated)
Additional fuel consumption due to weather deviation (simulated)

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plan
Radar Services
Course Interception
Pilotage
Dead Reckoning
Intercepting and Tracking VOR/ADF/GPS Courses (as aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 50 nm from Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Stage 2, Phase 5: Flying Commercial Maneuvers

SCENARIO 9: **Commercial Maneuvers Review (Dual)**

Objective:
You'll improve your proficiency in commercial maneuvers.
Purpose/pressures (real or simulated):
Achieving proficiency and consistency with commercial maneuvers in preparation for the practical test
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
None
Risks (real or simulated):
Distractions
Other air traffic while maneuvering

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Eights On Pylons
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Straight and Level Altitude Flight (IR)
Standard Rate Turns (IR)
Climbs and Climbing Turns (IR)
Descents and Descending Turns (IR)
Recovery from Unusual Attitudes (IR)
Maneuvering During Slow Flight (IR)
After Landing, Parking and Securing

Postflight Discussion

Phase 5 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
Steep spiral and emergency descent techniques, standards and use			
Chandelles and lazy eights techniques and standards			
Eights on pylons techniques and standards			
Impact of environmental factors on performance			
Calculating performance and managing risk with the predicted results			
Stall/spin awareness			

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
Single-pilot resource management			
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*		▓	
Preflight procedures			
Cross-country flight planning *PTS standards*			▓
Preflight inspection *PTS standards*			▓
In-flight			
Checklist use *PTS standards*			▓
Normal and crosswind takeoff and climb *PTS standards*			▓
Departure *PTS standards*			▓
Opening/closing flight plan *PTS standards*			▓
Radar services *PTS standards*			▓
Pilotage *PTS standards*			▓
Dead reckoning *PTS standards*			▓
Intercepting and tracking VOR/ADF/GPS courses (as aircraft equipped) *PTS standards*			▓
Power settings and mixture control *PTS standards*			▓
Estimates of ground speed and ETA *PTS standards*			▓
Position fix by navigation facilities *PTS standards*			▓
Flight on Federal airways *PTS standards*			▓

Phase 5 Proficiency Checklist *continued*

CTAF (UNICOM) airports *PTS standards*			
At least one landing more than 50 nm from departure airport *PTS standards*			
Short field takeoff and climb *PTS standards*			
Soft field takeoff and climb *PTS standards*			
Short field approach and landing *PTS standards*			
Soft field approach and landing *PTS standards*			
Steep turns *PTS standards*			
Steep spirals *PTS standards*			
Emergency descent *PTS standards*			
Chandelles *PTS standards*			
Lazy eights *PTS standards*			
Eights on pylons *PTS standards*			
Power off stall (approach to landing stall) *PTS standards*			
Power on stall (takeoff and departure stall) *PTS standards*			
Accelerated stall *PTS standards*			
Power off 180° approach and landing *PTS standards*			
Attitude instrument flying (straight and level, turns, climbs & descents) (IR) *PTS standards*			
Intercepting and tracking navigation systems (IR) *PTS standards*			
Partial panel (IR) *PTS standards*			
Intercepting and tracking navigation systems partial panel (IR) *PTS standards*			
Recovery from unusual attitudes (IR) *PTS standards*			
Maneuvering during slow flight (IR) *PTS standards*			
Collision avoidance procedures *PTS standards*			
Postflight procedures			
After landing, parking and securing *PTS standards*			

Phase 5 completion standards:

You have completed Phase 5 when you
- Understand and master the commercial performance and ground reference maneuvers
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Reviewed the Phase Progress Report with your instructor
- Completed the Progress Check

INSTRUCTOR NOTES:

SCENARIO 10: Progress Check (Dual)

Objective:
You'll have an opportunity to demonstrate you are the master of the commercial maneuvers. It is recommended that the Chief/Assistant Chief Flight Instructor give this flight lesson.
Purpose/pressures (real or simulated):
You would like to fly your airplane on business trips for your company. Your company's risk manager requires you to pass an evaluation to commercial PTS standards by the chief or assistant chief instructor at a local flight school.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Rough running engine
Pressurization failure
Risks (real or simulated):
Inadvertent IMC (simulated)

Preflight Discussion

Testing Your skills:
Single Pilot Resource Management (SRM)
Preflight Preparation
Preflight Procedures
Airport Operations
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Eights On Pylons
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Emergency Descent
Power Off 180° Approach and Landing
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Accelerated Stall
Straight and Level Altitude Flight (IR)
Standard Rate Turns (IR)
Climbs and Climbing Turns (IR)
Descents and Descending Turns (IR)
Recovery from Unusual Attitudes (IR)
Maneuvering During Slow Flight (IR)
Intercepting and Tracking Navigation Systems Partial Panel (IR)

Postflight Discussion

Stage 2, Phase 5: Flying Commercial Maneuvers

Phase 5 *Progress Check*

Desired outcome for all tasks for the Progress Check is "Perform" or "Manage/Decide"	Practice	Perform	Manage/ Decide
Single-pilot resource management			
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*		�	
Preflight			
Preflight preparation *PTS standards*		▒	
Preflight procedures *PTS standards*		▒	
Airport operations *PTS standards*		▒	
In-flight			
Chandelles *PTS standards*			▒
Steep turns *PTS standards*			▒
Steep spirals *PTS standards*			▒
Lazy eights *PTS standards*			▒
Eights on pylons *PTS standards*			▒
Short field takeoff and climb *PTS standards*			▒
Soft field takeoff and climb *PTS standards*			▒
Short field approach and landing *PTS standards*			▒
Soft field approach and landing *PTS standards*			▒
Emergency descent *PTS standards*			▒
Power off 180° approach and landing *PTS standards*			▒
Power off stall (approach to landing stall) *PTS standards*			▒
Power on stall (takeoff and departure stall) *PTS standards*			▒
Accelerated stall *PTS standards*			▒
Straight and level altitude flight (IR) *PTS standards*			▒
Standard rate turns (IR) *PTS standards*			▒
Climbs and climbing turns (IR) *PTS standards*			▒
Descents and descending turns (IR) *PTS standards*			▒
Recovery from unusual attitudes (IR) *PTS standards*			▒

Phase 5 *Progress Check* continued

Maneuvering during slow flight (IR) *PTS standards*			
Intercepting and tracking navigation systems partial panel (IR) *PTS standards*			

Phase 5 *Progress Check* completion standards:

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

- Demonstrate sound single pilot resource management
- Manage both actual and simulated flight risks
- Perform to the specified standards
- Complete all tasks evaluated as Manage/Decide or Perform
- Demonstrate to the check instructor that the safety of flight is never in doubt

INSTRUCTOR NOTES:

```
┌─────────────────────────────────┐
│            Stage 3              │
│         Commercial Pilot        │
│   Practical Test Preparation    │
└─────────────────────────────────┘
```

PHASE 6	PHASE 7	PHASE 8
Preparing for Your Commercial Pilot Checkride	Fine Tuning Skills	Achieving Your Goal
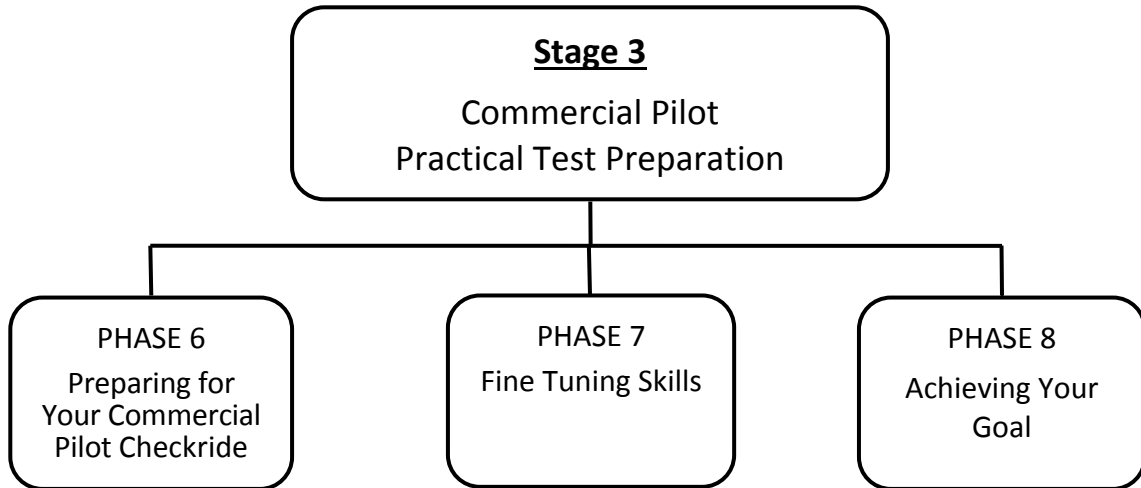
Stage 3 consists of three Phases
- Preparing for Your Commercial Pilot Checkride
- Fine Tuning Skills
- Achieving Your Goal

Stage Objective: During this stage you will
- Complete the final ground-study lessons
- Work on improving your skills with Commercial Pilot maneuvers
- Complete the cross-country experience requirements while refining risk management skills
- Prepare to exceed all the minimum standards for both the oral and flight portions of the Commercial Pilot Practical Test
- Fly with a check instructor for the final progress check

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.

Ver. 1.00

PHASE 6: Preparing for Your Commercial Pilot Checkride

Phase Objective: During this phase you will
- Study concepts involved with specialized operations, hazards, engines and propellers, aeromedical factors, and key information in the Aeronautical Information Manual
- Refine your skill with Commercial Pilot maneuvers
- Increase your proficiency and risk management skills involving cross-country operations

Web-based KNOWLEDGE

FLIGHT OPERATIONS

6.1 FLIGHT OPERATIONS
Objective: You will learn many of the techniques to keep both your engine and your passengers happy during a flight. You'll also learn that there are many outside influences and factors that affect pilot decision making, as well as how you can make good preflight and in-flight decisions.

6.1.1 Some Flying Basics
Fundamentals
Cold Weather Operations
Night Flying and Avoiding Controlled Flight into Terrain
Land and Hold Short Operations (LAHSO)

6.1.2 Taxiing
Airport Signs and Markings and Preventing Runway Incursions
Taxiing In the Wind

6.1.3 Crosswind, Wind Shear and Turbulence
Takeoff and Landing
Wind Shear
Turbulence

6.1.4 Staying Safe
Avoiding Midairs
Managing Risks

6.1.5 Engine Operations
Engine Stress
Oil
Ignition Systems
Mixture
Carburetor Heat

6.1.6 Propellers
Propeller Efficiency
Constant Speed Propellers

6.1.7 Aeromedical Factors
Hyperventilation
Hypoxia and Carbon Monoxide
Spatial Disorientation, Alcohol, Night Vision, and Fitness for Flight

6.1.8 Aeronautical Decision Making
Making Decisions as a Pilot
Classic Behavioral Traps
Hazardous Attitudes
Neutralizing Hazardous Attitudes
Stress Management
Using the "DECIDE" Model for Making Decisions

FLIGHT SCENARIOS

COMMERCIAL MANEUVERS REVIEW (DUAL)
COMMERCIAL MANEUVERS SKILL IMPROVEMENT (PIC)
CROSS-COUNTRY, COMPLEX, MANEUVERS REVIEW (DUAL)
CROSS-COUNTRY (DAY PIC)

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

Stage 3, Phase 6: Preparing for your Commercial Pilot Checkride

<u>SCENARIO 1</u>: Commercial Maneuvers Review (Dual)

Objective:
You'll improve your proficiency in commercial flight maneuvers.
Purpose/pressures (real or simulated):
You have successfully completed the first step interview with a banner tow company and are brushing up on commercial maneuvers for an employment check flight with the chief pilot.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Engine failure
Engine fire in flight
Primary instruments failure in IMC
Risks (real or simulated):
Other air traffic while maneuvering
Distractions

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Runway Incursion Avoidance
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Eights On Pylons
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Accelerated Stall
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Emergency Descent
Power Off 180° Approach and Landing
Intercepting and Tracking Navigation Systems (IR)
Partial Panel (IR)
Recovery from Unusual Attitudes (IR)

Postflight Discussion

SCENARIO 2: Commercial Maneuvers Skill Improvement (PIC)

Objective:
You'll improve your proficiency in commercial flight maneuvers.
Purpose/pressures (real or simulated):
You are practicing commercial maneuvers in preparation for an employment check flight in two days with the chief pilot of a banner tow company.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Engine failure downwind in traffic pattern
Risks (real or simulated):
Heavy training traffic at the nearest practice area
Rain showers in the vicinity of the second closest practice area

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Eights On Pylons
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing

Postflight Discussion

<u>SCENARIO 3</u> Cross-Country, Complex, Maneuvers Review (Dual)

Objective:
You'll gain proficiency in cross-country flight operations in a complex airplane.
Purpose/pressures (real or simulated):
You are taking a charter client is to a nearby city. The timing of this trip is critical because of a narrow window for the client to meet with his key vendor and engineers from the vendor's out-of-area supplier. The engineers depart on an international flight later this evening.
Where to go:
An airport greater than 50 nm straight-line distance from departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
As necessary for simulated weather conditions
Planned malfunctions:
Engine failure
Systems failures
Risks (real or simulated):
Frontal passage forecast 1 hour 30 minutes after your expected return
IMC due to visibility and ceiling

Preflight Discussion

Improving your skills:
Complex Airplane

Single Pilot Resource Management (SRM)
Cross-Country Flight Planning
Performance and Limitations
Preflight Inspection
Checklist Use
Engine Starting and Taxiing
Runway Incursion Avoidance
Before Takeoff Check
Normal and Crosswind Takeoff and Climb
Use of Retractable Landing Gear
Use of Constant Speed Propeller
Departure
Opening/Closing Flight Plan
Radar Services
Course Interception
Climbs and Descents
Power Settings and Leaning
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Simulated System Failures
Simulated Engine Failure
Pilotage

Dead Reckoning
Intercepting and Tracking Navigation Systems
    (IR)
ILS Approach (IR)
NDB/VOR Approach (IR)
GPS Approach (IR) (if aircraft equipped)
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 50 nm from
Departure Airport
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Go-Around
Maneuvering During Slow Flight
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Normal and Crosswind Landing
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 4: Cross-Country (Day PIC)

Objective:
You'll gain experience in cross-country flight operations and review commercial maneuvers.
Purpose/pressures (real or simulated):
You are fulfilling your employer's commitment to a charity to take a pediatric cancer patient and her family to a major fundraising event in Big City. Your key passenger is one of the featured guests. You will wait and return them home following the event.
Where to go:
An airport greater than 50 nm straight-line distance from departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
As necessary to deal with fog near your Big City destination
As necessary for ATC delays into Big City airport
Planned malfunctions:
None
Risks (real or simulated):
A marine cloud layer has covered the coastal portions of Big City with low ceilings. Visibility is greater than 6 miles. It is not forecast to reach Big City airport until several hours after your planned departure.

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plan
Radar Services
Course Interception
Pilotage
Dead Reckoning
Intecepting and Tracking VOR/ADF/GPS Courses (as aircraft equipped)
Power Settings and Mixture Control
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 50 nm from Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Stage 3, Phase 6: Preparing for your Commercial Pilot Checkride

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
Wake turbulence avoidance			
Land and hold short operations (LAHSO)			
Fundamentals of cabin pressurization			
Physiological hazards of high altitude flight and decompression			

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			
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*		▓	
Preflight procedures			
Cross-country flight planning *PTS standards*			▓
Performance and limitations *PTS standards*			▓
Preflight inspection *PTS standards*			▓
Engine starting and taxiing *PTS standards*			▓
Runway incursion avoidance *PTS standards*			▓
Before takeoff check *PTS standards*			▓
In-flight			
Checklist use *PTS standards*			▓
Normal and crosswind takeoff and climb *PTS standards*			▓
Use of retractable landing gear *PTS standards*			▓
Use of constant speed propeller *PTS standards*			▓
Departure *PTS standards*			▓
Opening/closing flight plan *PTS standards*			▓
Radar services *PTS standards*			▓
Course interception *PTS standards*			▓
Pilotage *PTS standards*			▓
Dead reckoning *PTS standards*			▓

Phase 6 Proficiency Checklist *continued*

Intercepting and tracking VOR/ADF/GPS courses (as aircraft equipped) *PTS standards*			
Power settings and leaning *PTS standards*			
Estimates of ground speed and ETA *PTS standards*			
Position fix by navigation facilities *PTS standards*			
Flight on Federal airways *PTS standards*			
CTAF (UNICOM) airports *PTS standards*			
At least one landing more than 50 nm from departure airport *PTS standards*			
Short field takeoff and climb *PTS standards*			
Soft field takeoff and climb *PTS standards*			
Short field approach and landing *PTS standards*			
Soft field approach and landing *PTS standards*			
Climbs and descents *PTS standards*			
Steep turns *PTS standards*			
Steep spirals *PTS standards*			
Emergency descent *PTS standards*			
Chandelles *PTS standards*			
Lazy eights *PTS standards*			
Eights on pylons *PTS standards*			
Maneuvering during slow flight *PTS standards*			
Power off stall (approach to landing stall) *PTS standards*			
Power on stall (takeoff and departure stall) *PTS standards*			
Accelerated stall *PTS standards*			
Intercepting and tracking navigation systems (IR) *PTS standards*			
Partial panel (IR) *PTS standards*			
Recovery from unusual attitudes (IR) *PTS standards*			
ILS approach (IR) *PTS standards*			
NDB/VOR approach (IR) *PTS standards*			
GPS approach (IR) (if aircraft equipped) *PTS standards*			
Simulated system failures *PTS standards*			

Ver. 1.00

Stage 3, Phase 6: Preparing for your Commercial Pilot Checkride

Phase 6 Proficiency Checklist *continued*

Simulated engine failure *PTS standards*			
Power off 180° approach and landing *PTS standards*			
Collision avoidance procedures *PTS standards*			
Go-around *PTS standards*			
Normal and crosswind landing *PTS standards*			
Postflight procedures			
After landing, parking and securing *PTS standards*			

Phase 6 completion standards:

You have completed Phase 6 when you
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Reviewed the Phase Progress Report with your instructor

INSTRUCTOR NOTES:

PHASE 7: Fine Tuning Skills

Phase Objective: During this phase you will
- Become familiar with Federal Aviation Regulations associated with Commercial operations
- Hone your skill with Commercial Pilot maneuvers
- Complete the last PIC cross-country flight

Web-based KNOWLEDGE

FEDERAL AVIATION REGULATIONS

7.1 FEDERAL AVIATION REGULATIONS
Objective: During this lab you will learn aviation terms and rules so that you can keep you, your passengers, and your airplane safe and legal.

    7.1.1 Documents and Certificates
        Category, Class and Type Ratings
        Pilot and Medical Certificates
        Aircraft Categories

    7.1.2 Responsibilities and Restrictions
        Responsibilities
        Restrictions

    7.1.3 Recency, Checks and Experience
        Recency
        Checks and Experience

    7.1.4 Preflight Action
        PIC Preflight Responsibilities

    7.1.5 Maintenance
        Airworthiness Responsibilities
        Maintenance Records
        Inspection and Repair
        Airworthiness Directives

    7.1.6 Collision Avoidance
        Right-of-Way Rules
        Position Lights
        Altitudes, Traffic Patterns and Emergency Authority

    7.1.7 Equipment Requirements
        Safety Belts, Oxygen and ELT's

    7.1.8 Flight Restrictions
        Aerobatics, Dropping Objects and Transponders

    7.1.9 FAA and NTSB Notification
        Accident and Incident Notification
        Alcohol and Drugs
        Change of Address

    7.1.10 Abbreviations and Symbols
        V Speeds

    7.1.11 Commercial Operations
        Commercial Operator
        Operating Under Part 91

         Ver. 1.00

FLIGHT SCENARIOS

COMMERCIAL MANEUVERS REVIEW (DUAL)
CROSS-COUNTRY REVIEW (DUAL)
CROSS-COUNTRY SKILL REFINEMENT (PIC)

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

<u>SCENARIO 1</u>: Commercial Maneuvers Review (Dual)

Objective:
You'll improve your proficiency in commercial flight maneuvers.
Purpose/pressures (real or simulated):
Your passenger is a geological engineer who wants to visually survey and photograph an area that has been recently recognized for potentially significant mineral deposits.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Engine failure in the traffic pattern
Primary instrument failure in IMC
Risks (real or simulated):
Low and medium altitude maneuvering to satisfy the client's requirements
Other aircraft in the area of interest

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Chandelles
Steep Turns
Steep Spirals
Lazy Eights
Eights On Pylons
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Partial Panel (IR)
Recovery from Unusual Attitudes (IR)

Postflight Discussion

SCENARIO 2: Cross-Country Review (Dual)

Objective:
You'll improve your proficiency in cross-country flight operations.
Purpose/pressures (real or simulated):
You are picking up two passengers at a city without airline service for return to your commercial airport for connecting travel.
Where to go:
An airport greater than 100 nm distance from departure
How to get there:
Pilotage, DR, VOR/ADF/GPS courses, airways
Planned deviations:
As necessary for destination airport NOTAM short-duration temporary closures
Planned malfunctions:
GPS RAIM alert
Risks (real or simulated):
Destination airport has reported and forecast ceilings below VFR minimums

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Runway Incursion Avoidance
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plan
Radar Services
Course Interception
Pilotage/Dead Reckoning
ILS Approach (IR)
NDB/VOR Approach (IR)
GPS Approach (IR) (if aircraft equipped)
Intercepting and Tracking Navigation Systems Partial Panel (IR)
Power Settings and Leaning
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 100 nm from Departure Airport
Normal and Crosswind Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

SCENARIO 3: Cross-Country Skill Refinement (PIC)

Objective:
You'll gain additional experience in cross-country flight operations.
Purpose/pressures (real or simulated):
You are flying a three-person medical team to perform a life-saving procedure at remote city.
Where to go:
An airport greater than 50 nm distance from departure airport
How to get there:
Pilotage, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Engine failure in traffic pattern
Risks (real or simulated):
Snow on the ground at destination
The short runway is plowed, but the plow broke down before getting the 4 inches off the longer runway.
Forecast wind splits the runways.

Preflight Discussion

Improving your skills:
Single Pilot Resource Management (SRM)
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Normal and Crosswind Takeoff and Climb
Departure
Opening/Closing Flight Plan
Radar Services
Course Interception
Pilotage/Dead Reckoning
Intecepting and Tracking VOR/ADF/GPS Courses (as aircraft equipped)
Power Settings and Leaning
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
At Least One Landing More Than 50 nm from Departure Airport
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Collision Avoidance Procedures
After Landing, Parking and Securing

Postflight Discussion

Stage 3, Phase 7: Fine Tuning Skills

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
Special flight permits			
Required instruments and equipment and using an MEL			

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
Single-pilot resource management			
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*		▨	
Preflight procedures			
Cross-country flight planning *PTS standards*			▨
Preflight inspection *PTS standards*			▨
Runway incursion avoidance *PTS standards*			▨
In-flight			
Checklist use *PTS standards*			▨
Normal and crosswind takeoff and climb *PTS standards*			▨
Departure *PTS standards*			▨
Opening/closing flight plan *PTS standards*			▨
Radar services *PTS standards*			▨
Course interception *PTS standards*			▨
Pilotage/dead reckoning *PTS standards*			▨
Intercepting and tracking VOR/ADF/GPS courses (as aircraft equipped) *PTS standards*			▨
Power settings and leaning *PTS standards*			▨
Estimates of ground speed and ETA *PTS standards*			▨
Position fix by navigation facilities *PTS standards*			▨
Flight on Federal airways *PTS standards*			▨
CTAF (UNICOM) airports *PTS standards*			▨
At least one landing more than 50 nm from departure airport *PTS standards*			▨

Phase 7 Proficiency Checklist *continued*

At least one landing more than 100 nm from departure airport *PTS standards*			
Short field takeoff and climb *PTS standards*			
Soft field takeoff and climb *PTS standards*			
Short field approach and landing *PTS standards*			
Soft field approach and landing *PTS standards*			
Steep turns *PTS standards*			
Steep spirals *PTS standards*			
Chandelles *PTS standards*			
Lazy eights *PTS standards*			
Eights on pylons *PTS standards*			
Partial panel (IR) *PTS standards*			
Intercepting and tracking navigation systems partial panel (IR) *PTS standards*			
Recovery from unusual attitudes (IR) *PTS standards*			
ILS approach (IR) *PTS standards*			
NDB/VOR approach (IR) *PTS standards*			
GPS approach (IR) (if aircraft equipped) *PTS standards*			
Power off 180° approach and landing *PTS standards*			
Collision avoidance procedures *PTS standards*			
Normal and crosswind landing *PTS standards*			
Postflight procedures			
After landing, parking and securing *PTS standards*			

Ver. 1.00

Stage 3, Phase 7: Fine Tuning Skills

Phase 7 completion standards:
You have completed Phase 7 when you
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Reviewed the Phase Progress Report with your instructor

INSTRUCTOR NOTES:

PHASE 8: Achieving Your Goal

Phase Objective: During this phase you will
- Learn the preparation tips that will make the checkride go more smoothly
- Review Commercial flight maneuvers prior to the Final Progress Check
- Participate one-on-one with your instructor for a pre-check ride briefing
- Review all Commercial PTS tasks during the Final Progress Check

Web-based KNOWLEDGE INSTRUCTION

ACHIEVING YOUR GOAL

8.1 ACHIEVING YOUR GOAL
Objective: You will learn how to get it all together before you show up for your checkride. You will also learn some useful tips for flying as a professional pilot.
>   **8.1.1 Now That you're About to Become a Commercial Pilot**
>   How to Make Your Checkride a Piece of Cake
>   Managing the Risks When You're Being Paid to Fly
>   The Consummate Professional

FLIGHT SCENARIOS

COMMERCIAL MANEUVERS REVIEW (Dual)
CHECKRIDE BRIEFING
FINAL PROGRESS CHECK

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

Stage 3, Phase 8: Achieving your Goal

SCENARIO 1: Commercial Maneuvers Review (Dual)

Objective:
You'll improve your proficiency in commercial flight maneuvers. You'll have an opportunity to work with
your instructor to correct any weak areas of your flying in preparation for your final Progress Check.
Purpose/pressures (real or simulated):
You are completing the flight portion of an interview and are flying with the chief pilot of the company you
hope to work for.
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, DR, VOR/ADF/GPS courses
Planned deviations:
None
Planned malfunctions:
Pressurization failure
Engine failure in traffic pattern
Risks (real or simulated):
Stress from being evaluated

Preflight Discussion

Testing your skills and knowledge:
Single Pilot Resource Management (SRM)
Preflight Inspection
Runway Incursion Avoidance
Checklist Use
Intercepting and Tracking VOR Courses
ILS Approach (IR)
NDB/VOR Approach (IR)
GPS Approach (IR) (if aircraft equipped)
Intercepting and Tracking ADF Courses (as aircraft equipped)
Intercepting and Tracking GPS Courses (as aircraft equipped)
Chandelles
Steep Turns
Steep Spirals
Emergency Descent
Lazy Eights
Eights On Pylons
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Accelerated stall
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
After Landing, Parking and Securiing

Postflight Discussion

CHECKRIDE BRIEFING

Objective:
During this briefing you will take your final Oral Exam to make sure you are ready for the ground portion of the FAA Commercial Pilot Practical Test. This is the time to discuss any questions you have with your instructor.

Checking your knowledge:

Certificates and Documents
Preflight Inspection
Weather Information
Cross-Country Flight Planning and Navigation
IFR Procedures
Enroute Charts
Approach Charts
The Airspace System
Departure Procedures
Enroute Procedures
Arrival Procedures
Basic VFR Weather Minimums
Aircraft Performance and Limitations
Takeoff Procedures
Weight and Balance
Operation of Systems
Engine Operation
Fuel System
Electrical System
Minimum Equipment
Aeromedical Factors
Supplemental Oxygen
Emergency Operations
FARs and NTSB 830
Basic and Advanced Aerodynamics
Flight Publications
Night Operations
High-Altitude Operations
Commercial Pilot Practical Test Standards

Stage 3, Phase 8: Achieving your Goal

Phase 8 Checkride Briefing 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
Certificates and documents			
Preflight inspection and airworthiness requirements			
Weather information			
Cross-country flight planning and navigation			
Positive exchange of flight controls			
Use of checklists			
IFR procedures			
Enroute charts			
Approach charts			
The airspace system			
Departure procedures			
Enroute procedures			
Arrival procedures			
Basic VFR weather minimums			
Aircraft performance and limitations			
Stall and spin awareness			
Takeoff procedures			
Weight and balance			
Operation of systems			
Engine operation			
Fuel system			
Electrical system			
Minimum equipment			
Aeromedical factors			
Supplemental oxygen			
Emergency operations			
FARs and NTSB 830			
Basic and advanced aerodynamics			
Flight publications			
Night operations			
High-altitude operations			
Commercial Pilot Practical Test Standards			

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			
Single-pilot resource management (SRM) *Utilizes all resources available to ensure the successful completion of the flight*		▓	

Phase 8 Proficiency Checklist *continued*

Preflight procedures			
Preflight inspection *PTS standards*			
Runway incursion avoidance *PTS standards*			
Checklist use *PTS standards*			
In-flight			
Intercepting and tracking VOR courses *PTS standards*			
Intercepting and tracking ADF courses (as aircraft equipped) *PTS standards*			
Intercepting and tracking GPS courses (as aircraft equipped) *PTS standards*			
ILS approach (IR) *PTS standards*			
NDB/VOR approach (IR) *PTS standards*			
GPS approach (IR) (if aircraft equipped) *PTS standards*			
Steep turns *PTS standards*			
Steep spirals *PTS standards*			
Emergency descent *PTS standards*			
Chandelles *PTS standards*			
Lazy eights *PTS standards*			
Eights on pylons *PTS standards*			
Power off stall (approach to landing stall) *PTS standards*			
Power on stall (takeoff and departure stall) *PTS standards*			
Accelerated stall *PTS standards*			
Short field takeoff and climb *PTS standards*			
Soft field takeoff and climb *PTS standards*			
Short field approach and landing *PTS standards*			
Soft field approach and landing *PTS standards*			
Power off 180° approach and landing *PTS standards*			
Postflight procedures			
After landing, parking and securing *PTS standards*			

Ver. 1.00

Stage 3, Phase 8: Achieving your Goal

Phase 8 completion standards:
You have completed Phase 8 when you
- Achieve a grade of "Explain" on all Checkride Briefing Checklist tasks
- Achieve a grade of "Perform" or "Manage/Decide" on all Phase Proficiency Checklist tasks
- Review the Phase Progress Report with your instructor
- Complete the Final Progress Check with the Chief/Assistant Chief Flight Instructor

SCENARIO 2: FINAL PROGRESS CHECK

Objective:
You should demonstrate Commercial Pilot proficiency in all your flying including maneuvers in a complex airplane. In addition, you will exhibit sound judgment in your decision making. It is recommended that the Chief/Assistant Chief Flight Instructor give this scenario.

Purpose/pressures (real or simulated):
You're flying a turbocharged airplane for an air ambulance company and today you are taking a medical team and patient to a city two states away. After the patient is transferred to a local facility, you and the medical team will fly to a second destination to pick up a critically ill patient to return to your home base.

Where to go:
To a pre-assigned destination greater than 50 nm and then to a suitable area for maneuvers free of obstructions and traffic

How to get there:
Pilotage, DR, VOR/ADF/GPS courses

Planned deviations:
Diversion to another destination because of weather

Planned malfunctions:
Navigation equipment, electrical system, pressurization, engine failures

Risks (real or simulated):
Approaching front at your destination airport with rain showers, low ceilings, low visibilities, and winds gusting to 20 knots
Forecast wind 40° to only runway available at the destination

Preflight Discussion

Checking your skills:

Aeronautical Decision Making
Risk Management
Task Management
Situational Awareness (SA)
Controlled Flight into Terrain Awareness (CFIT)
Automation Management
Cross-Country Flight Planning
Preflight Inspection
Checklist Use
Doors, Safety Belts and Shoulder Harnesses
Engine Starting and Warm-up
Use of ATIS
Taxiing and Runway Incursion Avoidance
Before Takeoff Check and Engine Runup
Normal and Crosswind Takeoff and Climb
Tower Controlled Airports/High Density Airport
    Operations
Departure
Course Interception
Pilotage
Dead Reckoning
VOR Navigation (IR)
ADF Navigation (IR) (if aircraft eq.)
GPS Navigation (IR) (if aircraft eq.)
ILS/NDB or VOR Approach (IR)
Partial Panel (IR)
Recovery from Unusual Attitudes (IR)
Power Settings and Mixture Control
Diversion to an Alternate
Lost Procedures
Use of Retractable Landing Gear

Simulated System Failures
Simulated Engine Failure
Estimates of Ground Speed and ETA
Position Fix by Navigation Facilities
Flight on Federal Airways
CTAF (UNICOM) Airports
Straight and Level Altitude Flight (IR)
Standard Rate Turns (IR)
Climbs and Climbing Turns (IR)
Descents and Descending Turns (IR)
Recovery from Unusual Attitudes (IR)
Maneuvering During Slow Flight (IR)
Power Off Stall (approach to landing stall)
Power On Stall (takeoff and departure stall)
Accelerated Stall
Short Field Takeoff and Climb
Soft Field Takeoff and Climb
Short Field Approach and Landing
Soft Field Approach and Landing
Power Off 180° Approach and Landing
Normal and Crosswind Landing
Collision Avoidance Procedures
Chandelles
Steep Turns
Steep Spirals
Emergency Descent
Lazy Eights
Eights On Pylons
Parking and Securing
Postflight Procedures

Postflight Discussion

Stage 3, Phase 8: Achieving your Goal

Phase 8 Final 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 by the end of the phase is "Perform" or "Manage/Decide"*	Practice	Perform	Manage / Decide
Single-pilot resource management			
Aeronautical decision making *Uses sound decision-making process, recognizes hazardous attitudes, appropriate response to changes*			
Risk management *Understands risk elements, uses tools i.e. PAVE, IMSAFE, 5P to assess and mitigate risks*			
Task management *Prioritizes tasks, completes in timely manner without distractions to flying, uses checklists*			
Situational Awareness (SA) *Identifies potential ground and airborne SA risks; understands and uses tools available to enhance SA*			
Controlled Flight into Terrain awareness (CFIT) *Aware of potential terrain and obstacles from departure to destination as well as possible diversion routes, uses all resources available*			
Automation management *If installed, utilizes autopilot/FMS to reduce workload as appropriate, understands modes and failures*			
Preflight procedures			
Cross-country flight planning *PTS Standards*			
Preflight inspection *PTS Standards*			
Checklist use *PTS Standards*			
Doors, safety belts, and shoulder harnesses *PTS Standards*			
Engine starting and warm-up *PTS Standards*			
Use of ATIS *PTS Standards*			
Taxiing *PTS Standards*			
Runway incursion avoidance *PTS Standards*			
Before takeoff check and engine runup *PTS Standards*			
In-flight			
Normal and crosswind takeoff and climb *PTS Standards*			
Tower controlled airports/high density airport operations *PTS Standards*			
Departure *PTS Standards*			
Course interception *PTS Standards*			
Pilotage *PTS Standards*			
Dead reckoning *PTS Standards*			
VOR navigation (IR) *PTS Standards*			
ADF navigation (IR) (if aircraft equipped) *PTS Standards*			

Phase 8 Final Progress Check Flight *continued*

GPS navigation (IR) (if aircraft equipped) *PTS Standards*			
ILS/NDB or VOR approach (IR) *PTS Standards*			
Partial panel (IR) *PTS Standards*			
Recovery from unusual attitudes (IR) *PTS Standards*			
Power settings and mixture control *PTS Standards*			
Diversion to an alternate *PTS Standards*			
Lost procedures *PTS Standards*			
Use of retractable landing gear *PTS Standards*			
Simulated system failures *PTS Standards*			
Simulated engine failure *PTS Standards*			
Estimates of ground speed and ETA *PTS Standards*			
Position fix by navigation facilities *PTS Standards*			
Flight on Federal Airways *PTS Standards*			
CTAF (UNICOM) airports *PTS Standards*			
Straight and level altitude flight (IR) *PTS Standards*			
Standard rate turns (IR) *PTS Standards*			
Climbs and climbing turns (IR) *PTS Standards*			
Descents and descending turns (IR) *PTS Standards*			
Recovery from unusual attitudes (IR) *PTS Standards*			
Maneuvering during slow flight (IR) *PTS Standards*			
Power off stall (approach to landing stall) *PTS Standards*			
Power on stall (takeoff and departure stall) *PTS Standards*			
Accelerated stall *PTS Standards*			
Short field takeoff and climb *PTS Standards*			
Soft field takeoff and climb *PTS Standards*			
Short field approach and landing *PTS Standards*			
Soft field approach and landing *PTS Standards*			
Power off 180° approach and landing *PTS Standards*			
Normal and crosswind landing *PTS Standards*			

Ver. 1.00

Phase 8 Final Progress Check Flight *continued*

Collision avoidance procedures *PTS Standards*			
Chandelles *PTS Standards*			
Steep turns *PTS Standards*			
Steep spirals *PTS Standards*			
Emergency descent *PTS Standards*			
Lazy eights *PTS Standards*			
Eights on pylons *PTS Standards*			
Postflight procedures			
Parking and securing *PTS Standards*			
Postflight procedures *PTS Standards*			

Phase 8 completion standards:
You have completed Phase 8 when you
- Achieve a grade of "Perform" or "Manage/Decide" on all Final Progress Check Checklist tasks

INSTRUCTOR NOTES:

Cessna Commercial Pilot Course Training Requirements

Requirements for enrollment
Prior to enrolling in the flight portion of the Commercial Pilot course, the customer must
- Be at least 18 years old prior to course graduation (you can start training earlier).
- Hold at least a private pilot certificate.
  - An airplane category, single engine land class rating
- For a Part 141 course, hold an instrument rating or be concurrently enrolled in an instrument rating course.

Ground training requirements
The customer must successfully complete
- All web-based knowledge instruction
- All Ground Training Checklists
- All Progress Checks
- Practice Knowledge Test (if required by Cessna Pilot Center)

Flight training requirements
Prior to completing the Cessna Commercial 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 Commercial Pilot course, the applicant must:
- Be able to read, speak, write and understand English
- Complete all ground training requirements
- Complete all flight training requirements
- Achieve a satisfactory grade on the FAA Commercial Pilot-Airplane Knowledge Test

Minimum flight time requirements
The course is designed to meet the minimum hour requirements of
- 14 CFR Part 141, Appendix D Commercial Pilot Certification Course
- 14 CFR Part 61 Subpart F Commercial Pilots

The minimum FAA hour requirements
- Vary depending upon your course of enrollment
- Are to be thought of as minimums only
  - The goal is to prepare you to be a competent, proficient commercial pilot

What you get at an FAA certificated flight school (under 14 CFR Part 141)
If you take a course with this syllabus under Part 141 of the Federal Aviation Regulations, you are assured that flight school has been approved by the FAA and is required to demonstrate and maintain
- Standardized flight operations, including *Safety Procedures and Practices*
- A structured training environment
- Detailed training records available for regular and unannounced FAA checks and inspection
- At least an 80% first attempt pass rate for certificate or rating applicants training under Part 141

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

COMMERCIAL PILOT COURSE
MINIMUM COURSE HOURS AND CHRONOLOGICAL LOG

For Part 141, Appendix D Compliance

These times are for customer/instructor guidance only. They are a suggested time schedule which will ensure compliance with the minimum flight and ground training required under FAR Part 141. Preflight and postflight briefings are required under FAR Part 141 for each flight training flight. It is suggested that you allow a minimum of .5 hour per flight for these briefings. The written exams may be credited toward the 35 hours of required ground training, and the check flights may be credited toward the 55 hours of flight training.

Date	Lesson	Total Flight Trng	X-C Flight Trng	Instrmnt Flight Trng	Complx Aircraft Flt Trng	Night Flight Trng	PIC/ Solo	Night Solo	X-C PIC Day	X-C PIC Nite	Total Time	Grnd Trng
	STAGE 1 **PHASE 1: LEARNING PROFESSIONAL CROSS-COUNTRY AND NIGHT PROCEDURES**											
	CROSS-COUNTRY PLANNING											1.0
	SECTIONAL CHARTS											.5
	FLIGHT SCENARIO 1	3.0	3.0	.5								1.0
	FLIGHT SCENARIO 2	1.0		.2		1.0						.5
	FLIGHT SCENARIO 3								4.0			
	FLIGHT SCENARIO 4	4.0	4.0	.7		4.0						1.0
	FLIGHT SCENARIO 5						Solo 1.5	1.5				
	PHASE 2: REFINING NAVIGATION AND BASIC MANEUVER SKILLS											
	RADIO NAV AND FLIGHT INSTRUMENTS											1.5
	AIRSPACE AND WEATHER MINIMUMS											1.5
	FLIGHT SCENARIO 1								4.0			
	FLIGHT SCENARIO 2						Solo 1.5	1.5				
	FLIGHT SCENARIO 3						Solo 4.0	4.0		Solo 4.0		
	FLIGHT SCENARIO 4								4.0			
	FLIGHT SCENARIO 5 AND PROGRESS CHECK	3.0	3.0	.4								1.0
	PHASE 3: BUILDING CROSS-COUNTRY EXPERIENCE											
	WEATHER											3.0
	WEIGHT AND BALANCE											1.0
	FLIGHT SCENARIO 1								4.0			
	FLIGHT SCENARIO 2								4.0			
	FLIGHT SCENARIO 3								4.0			
	FLIGHT SCENARIO 4						Solo 5.0	5.0				
	FLIGHT SCENARIO 5 AND PROGRESS CHECK	2.0	2.0	.5								1.0
	TOTAL RECEIVED STAGE 1											
	TOTAL REQUIRED STAGE 1	**13.0**	**12.0**	**2.3**		**5.0**	**36.0 ***	**7.0**	**29.0**	**4.0**		**13.0**

Date	Lesson	Total Flight Trng	X-C Flight Trng	Instrmnt Flight Trng	Complx Aircraft Flt Trng	Night Flight Trng	PIC/ Solo	Night Solo	X-C PIC Day	X-C PIC Nite	Total Time	Grnd Trng
STAGE 2 / PHASE 4												
	STAGE 2 **PHASE 4: FLYING COMPLEX AIRPLANES**										
	AERODYNAMIICS											2.0
	FLIGHT SCENARIO 1	2.0			2.0							1.0
	FLIGHT SCENARIO 2	2.0		.5	2.0							.5
	FLIGHT SCENARIO 3 AND **PROGRESS CHECK**	2.0		.5	2.0							.5
	PHASE 5: FLYING COMMERCIAL MANEUVERS										
	STEEP TURNS											1.0
	CHANDELLES											1.0
	LAZY EIGHTS											1.0
	EIGHTS ON PYLONS											1.0
	POWER-OFF APPROACH											2.0
	AIRCRAFT PERFORMANCE											2.0
	FLIGHT SCENARIO 1	2.0		.3								.5
	FLIGHT SCENARIO 2	2.0		.3								.5
	FLIGHT SCENARIO 3						3.0					
	FLIGHT SCENARIO 4	3.0		.5								.5
	FLIGHT SCENARIO 5						3.0					
	FLIGHT SCENARIO 6	3.0		.6								.5
	FLIGHT SCENARIO 7						3.0					
	FLIGHT SCENARIO 8								5.0			
	FLIGHT SCENARIO 9	2.0		.5								.5
	FLIGHT SCENARIO 10 AND **PROGRESS CHECK**	2.0		.5								1.0
	TOTAL RECEIVED STAGE 2											
	TOTAL REQUIRED STAGE 2	**20.0**		**3.7**	**6.0**		**9.0 ***		**5.0**			**15.5**

Appendix A

Date	Lesson	Total Flight Trng	X-C Flight Trng	Instrmnt Flight Trng	Complx Aircraft Flt Trng	Night Flight Trng	PIC/ Solo	Night Solo	X-C PIC Day	Nite	Total Time	Grnd Trng
	STAGE 3 PHASE 6: PREPARING FOR YOUR COMMERCIAL PILOT CHECKRIDE											
	FLIGHT OPERATIONS											1.8
	FLIGHT SCENARIO 1	4.0		.8								.5
	FLIGHT SCENARIO 2						4.0					
	FLIGHT SCENARIO 3	3.0	3.0	.7	3.0							.5
	FLIGHT SCENARIO 4						6.0		6.0			
	PHASE 7: FINE TUNING SKILLS											
	FEDERAL AVIATION REGULATIONS											1.7
	FLIGHT SCENARIO 1	3.0		.3								.5
	FLIGHT SCENARIO 2	5.0	5.0	1.0								.5
	FLIGHT SCENARIO 3						5.0		5.0			
	PHASE 8: ACHIEVING YOUR GOAL											
	ACHIEVING YOUR GOAL											.5
	FLIGHT SCENARIO 1	4.0		.5								.5
	CHECK RIDE BRIEFING											1.0
	FLIGHT SCENARIO 2 AND FINAL PROGRESS CHECK	3.0		.7	1.0							1.0
	TOTAL RECEIVED STAGE 3											
	TOTAL REQUIRED STAGE 3	22.0	8.0	4.0	4.0		15.0		11.0			8.5
	TOTAL RECEIVED IN COURSE											
	MINIMUM REQUIRED FOR THIS PART 141 COURSE	55.0	20.0	10.0	10.0	5.0	65.0 *	7.0	35.0	4.0	120	35.0

* 10.0 minimum total solo

Date	Lesson	Total Flight Trng	X-C Flight Trng	Instrmnt Flight Trng	Complx Aircraft Flt Trng	Night Flight Trng	PIC/ Solo	Night Solo	X-C PIC Day	Nite	Total Time	Grnd Trng
	MINIMUM REQUIRED FOR PART 61	20.0	4.0 (a)	10.0	10.0	2.0	10.0 (b)	5.0	50.0 (c)		250	37.0

(a) 2 hours day VFR & 2 hours night VFR

(b) Solo

(c) May be day or night

GROUND TRAINING SUMMARY

Phase	Online Knowledge Lessons*	Pre-flight & Post-flight Briefings**	Ground Training Checklist	Total
1	1.5	2.5	1.9	5.9
2	3.0	1.0	1.6	5.6
3	4.0	1.0	1.1	6.1
Stage 1 Totals	8.5	4.5	4.6	17.6

4	2.0	2.0	1.5	5.5
5	8.0	3.5	1.6	13.1
Stage 2 Totals	10.0	5.5	3.1	18.6

6	1.8	1.0	1.2	4.0
7	1.7	1.0	0.8	3.5
8	0.5	2.5	2.5	5.5
Stage 3 Totals	4.0	4.5	4.5	13.0
Totals	**22.5**	**14.5**	**12.2**	**49.2**

*   Based on a 45 second average per each lesson page and question.
** Based on 0.5 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, Appendix C 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. Instruction will 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.

INTENTIONALLY LEFT BLANK

<u>PAVE Checklist</u>

PAVE your way to a safe instrument flight. 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 (not just current) for flying in today's weather?
- ❑ Do I have recent experience in actual instrument conditions?
- ❑ Am I proficient with the avionics and the navigation systems for this flight?
- ❑ Am I rested and have I checked the IMSAFE elements?

AIRCRAFT

Evaluate the capability of the aircraft.

- ❑ Does this airplane have enough redundancy of communication radios, navigation equipment, and flight instruments or display?
- ❑ Is the lighting working and good enough for night instrument flying?
- ❑ Does this airplane have sufficient performance reserve for this flight?
- ❑ Is there enough range reserve to reach a legal and safe alternate?

ENVIRONMENT

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

- ❑ Are conditions at my destination forecast for marginal IFR?
- ❑ Are there areas for a good weather alternate within my fuel range?
- ❑ What is the crosswind component on the active runway?
- ❑ Is the runway slick from water, snow, or slush?
- ❑ Are braking action reports available?

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?
- ❏ Am I evaluating the consequences of changes I am seeing?
- ❏ Am I prepared for a later arrival, lower ceilings and visibility, 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 the weather at my destination airport has changed?
- ❏ Has the goal to land at my destination put me in denial?
- ❏ Am I dealing with things as they really are enroute and 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 continue under unsuitable conditions?