

## **Understanding the Syllabus**

Coast Flight's approved Private Pilot Syllabus is based on the Jeppesen Online Training Program. This guide is intended to serve as a quick reference resource (checklist) for the purposes of studying and briefing. Official training standards and grades for each flight lesson can be found in the Jeppesen Private Pilot Syllabus located in each student's training folder and/or via the TALON student management system reports. The basic Jeppesen syllabus is the one that has been approved by the FAA minimum and meets the requirements for the completion of Coast Flight's Part 141 program (35 hours). Coast Flight has added additional training to this syllabus to ensure each student is trained to the highest standards. Some of the flight lessons are repeated in order to ensure mastery and to provide a solid training foundation for continued growth. Coast's Syllabus as presented in this guide is designed to complete a Private Pilot in 60 hours of aircraft/simulator time. This syllabus is organized into the following training components.

### **STAGES**

A stage is a series of events that is organized to provide the student and instructor a logical training and evaluation grouping. These groups allow for the safe completion of major training milestones within the syllabus. The three stages in this syllabus are explained in detail below.

- **Stage I**

The first stage prepares students for their first solo flight. They learn, practice, and review basic maneuvers, and develop the knowledge, skill, and safety habits necessary for solo flight. In addition, they practice airport operations, normal and crosswind takeoffs and landings, emergency procedures, and ground reference maneuvers.

- **Stage II**

This stage introduces short- and soft-field takeoffs, climbs, approaches, and landings; radio navigation; flight by reference to instruments; and night flying. Maneuvers are introduced during this stage; these maneuvers build upon the skills developed during Stage I and provide important skills necessary for the cross-country operations later in this stage.

The cross-country portion of this stage provides the necessary information, knowledge, and skills that enable students to safely conduct solo cross-country flights. Proficiency in performance takeoffs and landings, stalls, maneuvers, and cross-country procedures is evaluated during the stage check in Flight Lesson 21.

- **Stage III**

This stage prepares students for the private pilot practical test. Students gain experience and confidence in cross-country operations and review all maneuvers within the syllabus to attain PTS-level pilot proficiency. Student proficiency and knowledge is assessed by the chief instructor, assistant chief instructor, or check instructor during the stage check in Flight Lesson 26. Students can conduct further review and obtain additional instruction as necessary to prepare for the end-of-course flight check.

### **EVENTS**

Events are the building block of the syllabus. Events are presented and are required to be completed in the order they are listed in this syllabus guide. Each event may have one or more Lesson components that the students will be required to complete prior to or during the time the student and instructor meet for the event. These components (Lessons) are listed below.

- **Ground Lessons**

Outlines for all private pilot ground lessons are filed behind the Ground Syllabus tab. Each lesson outline contains a Lesson Objective and Completion Standards. The Lesson References portion guides students and instructors to the appropriate sections of the Jeppesen Private Pilot textbook or eBook. For some lessons, the FAR/AIM manual or eBook is the lesson reference. The Content section lists the topics that students complete online when taking this lesson in the Jeppesen Learning Center.

- **Maneuvers Lessons**

Step-by-step procedural descriptions of private pilot maneuvers are available in the online Private Pilot course and in the Private Pilot Maneuvers Manual or eBook. These maneuvers lessons include illustrations that help students visualize and understand each maneuver before they practice it in the airplane. Students learn tips on improving performance and enhancing their flying skills, they learn the FAA practical test standards that apply to the each maneuver, and also explore safety and human factors issues. In addition, the online course allows students to mentally rehearse the maneuver by viewing a video of the maneuver as it appears from the pilot's seat with an instructor's voice guiding the student through the maneuver.

When following the Time Allocation Table, students will complete these maneuvers lessons immediately before the flight in which the maneuver is practiced. Even after completing an online maneuvers lesson, it might be helpful for a student to bring the printed manual or eBook to a flight lesson, where the instructor can use it review maneuvers to be conducted during the flight. The references to the maneuvers in the Private Pilot Maneuvers Manual are shown in the Time Allocation Table (in parenthesis following the name of the maneuver) and in the Study Assignments at the end of each flight lesson.

- **Flight Lessons**

Flight Lessons are the practical application of the ground training elements that were covered in Ground and Maneuver Lessons. During the Flight Lesson the student will be standard. These specific standards can be found on the grade sheet for each Flight Lesson. For the purposes of this Guide, the Flight Lessons listed are a summary of lesson objectives, new discussion items and newly introduced flight items.

The specific flight lesson completion requirements are detailed in on the grade sheet for each lesson. These grade sheets are kept in your training folder and online via the TALON training management system.

## **EXAMS AND CHECKS**

Throughout the syllabus students will be required to conduct milestone exams and flight events in order to enable the flight instruction staff to ensure standardization of training, remediate deficiencies in learning and correct unwanted trends. These milestone events are:

- **Stage Exams**

Three stage exams evaluate student understanding of the knowledge areas within a stage. The time for the stage exams is counted in the ground-training time for the Private Pilot Certification Course. Even when students take these exams online, the exams need to be proctored by an instructor. Therefore, the instructor and student must make arrangements to ensure that the instructor is present when the stage exam is administered. Successful completion of each stage exam and a review of each incorrect response are required before the student can progress to the next stage.

- **End-of-Course Exam**

When all ground lessons are complete, the student then takes the End-of-Course Exam. As with the stage exams, the End-of-Course Exam must be proctored by an instructor. Following the exam, the instructor assigns each student appropriate subject areas for review. After a thorough review, the student should take the FAA Private Pilot airman knowledge test as soon as possible.

- **Stage Checks**

This Private Pilot Certification Course includes three stage checks that must be administered by the chief instructor. However, the chief instructor may delegate authority for conducting stage and end-of-course checks to the assistant chief instructor or the designated check instructor. Students must pass each stage check before progressing to the next stage, or to the End-Of-Course Exam.

Each flight lesson includes tables where instructors record student outcomes and compare them to desired outcomes. These tables serve as checklists to ensure that the student has met the completion standards for a lesson. The following tables explain the grading scales for the two types of desired outcome levels.

**Aeronautical Decision Making (ADM)** — For evaluating the student's ability to make sensible decisions, manage risk, learn from their mistakes, and effectively self-evaluate their performance during the lesson.

Use the ADM desired outcomes levels [Listed below] to complete the Preflight Briefing, Introduce and Review, Aeronautical Decision Making, and Postflight Briefing tables of the flight lessons. Also, circle these grades in the ADM columns of Introduce/Review tables to indicate how well the student made effective decisions and managed risk during the performance of the task.

DESIRED OUTCOME LEVELS – Aeronautical Decision Making (ADM)	
Outcome Level	Requirements and Considerations
Explain (E)	<p>The student correctly identifies the mission and scenario risks, but requires instructor assistance to apply concepts for managing risk and making effective decisions.</p> <p>The instructor prompts the student to identify risks and make effective decisions.</p>

Practice (P)	<p>The student uses risk management, SRM, and the ADM process to make and implement effective decisions regarding the mission and scenario tasks with minimal instructor assistance.</p> <p>The instructor provides coaching to assist the student in correcting instructor-identified errors.</p>
Manage/Decide (M)	<p>The student uses risk management, SRM, and the ADM process to identify possible courses of action, and then make and implement effective decisions regarding the mission and scenario tasks without instructor assistance.</p> <p>The instructor does not need to provide assistance to ensure safe completion of the flight.</p> <p>Before conducting solo flight, the student must meet the Manage/Decide desired outcome level for the tasks to be accomplished during the solo lesson.</p>

**Maneuvers and Procedures** — For evaluating technical competency and academic knowledge of tasks. Use the Maneuvers and Procedures desired outcomes [listed below] to complete the Introduce/Review table (other than the ADM columns) in each flight lesson.

DESIRED OUTCOME LEVELS – Maneuvers and Procedures	
Outcome Level	Requirements and Considerations
Describe (D)	<p><b>Comparable to the <i>Rote</i> level of learning</b></p> <p>The student demonstrates understanding of the physical characteristics and cognitive elements of the mission and scenario tasks.</p> <p>The instructor provides significant assistance to ensure the successful completion of the task.</p> <p>Although it is not used as a desired outcome for the mission and scenario tasks, a column is provided in the Mission tables for recording this outcome level if the student does not achieve the Explain level.</p>
Explain (E)	<p><b>Comparable to the <i>Understanding</i> level of learning.</b></p> <p>The student demonstrates understanding of the underlying concepts and principles of the mission and scenario tasks and the correct methods to perform these tasks.</p> <p>The instructor provides assistance to successfully complete the task.</p>

	This desired outcome is used when the task is introduced.
Practice (Pr)	<p><b>Comparable to the <i>Application</i> level of learning.</b></p> <p>The student successfully plans and completes the mission and scenario tasks with minimal guidance from the instructor.</p> <p>The instructor provides coaching to assist the student in correcting instructor-identified errors.</p> <p>This desired outcome is used when a task is reviewed in a lesson that occurs after the task was introduced. Task standards change to meet the Practice outcome based on the completion standards for the lesson.</p>
Perform (Pe)	<p>The student demonstrates proficiency in performing the mission and scenario tasks without instructor assistance. At no time is the successful completion of the task in doubt.</p> <p>The student identifies and corrects errors without instructor assistance.</p> <p>This desired outcome is used to signify that the student completes the mission and scenario tasks to the standards outlined in the current Private Pilot Practical Test Standards (PTS).</p>
Not Observed (NO)	The task was not attempted or required during the lesson.

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### Private Pilot Syllabus Outline

	Training Event	Event Type	Note	Ground Lessons	Maneuver Lessons	Flight Lessons	Flight Time
STAGE I	EVENT 1	Ground		GL 1, 2, and 3			
	EVENT 2	Aircraft				FL 1	1.0
	EVENT 3	Ground		GL 4, 5, and 6			
	EVENT 4	Aircraft			ML 1, 2, 3, and 4	FL 2	1.5
	EVENT 5	Aircraft				FL 3	1.5
	EVENT 6	Aircraft				FL 3	2.0
	EVENT 7	Ground		GL 7, 8, and 9			
	EVENT 8	Simulator			ML 5, 6, 7, and 8	FL 4	2.0
	EVENT 9	Aircraft				FL 4	2.0
	EVENT 10	Ground		GL 10,11,12 and 13			
	EVENT 11	Aircraft			ML 9 and 10	FL 5	1.5
	EVENT 12	Aircraft				FL 5	2.0
	EVENT 13	Simulator			ML 11, 12 and 13	FL 6	2.0
	EVENT 14	Aircraft				FL 6	1.5
	EVENT 15	Ground		GL 14, 15, and 16			
	EVENT 16	Aircraft	(1)		ML 14, 15, and 16	FL 7	2.0
	EVENT 17	Ground		GL 17, 18, and 19			
	EVENT 18	Aircraft				FL 8	2.0
	EVENT 19	Ground		GL 20, 21, and 22			
	EVENT 20	Aircraft	(2)		GL 23 and 24	FL 9	2.0
	EVENT 21	Aircraft				FL 11	2.0
STAGE II	EVENT 22	Ground		GL 25, 26, and 27	ML 17		
	EVENT 23	Aircraft				FL 12	2.0
	EVENT 24	Aircraft	(3)			FL 12	2.0
	EVENT 25	Aircraft				FL 12	2.0
	EVENT 26	Aircraft				FL 10	2.0
	EVENT 27	Ground		GL 28,29,30 and 31			
	EVENT 28	Aircraft				FL 13	2.0
	EVENT 29	Aircraft				FL 14	2.0
	EVENT 30	Aircraft				FL 15	1.0
	EVENT 31	Aircraft		GL 32 and 33		FL 16	2.0
	EVENT 32	Aircraft			ML 18	FL 17	1.5
	EVENT 33	Ground	(4)	GL 34 and 35			
	EVENT 34	Aircraft				FL 18	2.0
	EVENT 35	Aircraft				FL 19	2.5
	EVENT 36	Aircraft				FL 20	1.5
	EVENT 37	Aircraft	(5)			FL 21	1.5
	STAGE III	EVENT 38	Aircraft				FL 22
EVENT 39		Aircraft				FL 23	2.5
EVENT 40		Aircraft	(6)			FL 24	1.5
EVENT 41		Aircraft				FL 25	1.5
EVENT 42		Aircraft				FL 26	2.0
EVENT 43		Aircraft				FL 27 (EOC)	2.0

GL = Ground Lesson  
 ML = Maneuver Lesson  
 FL = Flight Lesson

**Notes:**

1. Stage I Exam Complete
2. Stage II Exam Complete
3. Pre-Solo Exam
4. Stage III Exam Complete
5. End of Course Exam Complete
6. Private Pilot Written Exam Complete



# **ACT Private Pilot**

## **GROUND LESSONS**

## **Ground Lesson 1 — Aviation Opportunities**

### **Lesson Objective:**

Motivate the student as to the opportunities and careers available in the aviation industry.

Lesson References:

- *Private Pilot Online*: Ground Lesson 1 — Aviation Opportunities
- *Private Pilot Textbook*: Chapter 1, Sections A and B — Pilot Training and Aviation

Opportunities

### **Completion Standards:**

This lesson is complete when the interaction and video are finished. There is no evaluation for this lesson.

Content:

- Aviation History
- The Flying Experience
- Aviation Careers



## **Ground Lesson 2 — Pilot Training FAQs**

### **Lesson Objective:**

Gain an understanding of the pilot training process through a series of frequently asked questions.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 2 — Pilot Training FAQs
- *Private Pilot Textbook*: Chapter 1, Sections A and B — Pilot Training and Aviation Opportunities

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- The Private Pilot Training Process
- Private Pilot Requirements and Privileges
- Additional Ratings and Certifications

## **Ground Lesson 3 — Introduction to Human Factors**

### **Lesson Objective:**

Increase aviation safety by optimizing human performance and reducing human error.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 3 — Introduction to Human Factors
- *Private Pilot Textbook*: Chapter 1, Section C — Introduction to Human Factors

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Human Factors Training
- Risk Management
- Single-Pilot Resource Management (SRM)
- Applying SRM to Flight Maneuvers and Procedures
- Aviation Physiology

## **Ground Lesson 4 — Airplanes**

### **Lesson Objective:**

Gain a basic understanding of airplane construction, components, and required operating documentation.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 4 — Airplanes
- *Private Pilot Textbook*: Chapter 2, Section A — Airplanes

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Types of Construction
- Airplane Components
  - Fuselage
  - Wings
  - Empennage
  - Trim Devices
  - Landing Gear
  - Powerplant
- Aircraft Documents

## **Ground Lesson 5 — The Powerplant and Related Systems**

### **Lesson Objective:**

Gain a basic understanding of how a powerplant and its related systems function in normal operation, and in potentially abnormal operation.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 5 — The Powerplant and Related Systems
- *Private Pilot Textbook*: Chapter 2, Section B — The Powerplant and Related Systems

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Engine Operation
- Engine Systems
  - Induction Systems
  - Ignition System
  - Fuel Systems
  - Oil Systems
  - Cooling Systems
  - Exhaust System
- Propellers
- Electrical System

## **Ground Lesson 6 — Flight Instruments**

### **Lesson Objective:**

Gain a basic understanding of how analog and digital flight instruments function, including common errors and malfunctions.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 6 — Flight Instruments
- *Private Pilot Textbook*: Chapter 2, Section C — Flight Instruments

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Pitot-Static Instruments
  - Effects of Atmospheric Conditions
  - Operating Characteristics of the Pitot Static System
  - Airspeed Indicator
  - Altimeter
  - Vertical Speed Indicator
  - Blockage of the Pitot-Static System
- Gyroscopic Instruments
  - Operating Characteristics of the Gyroscopic System
  - Turn Coordinator
  - Attitude Indicator
  - Heading Indicator
  - Sources of Power
- Magnetic Compass
- Digital Flight Instruments

## **Ground Lesson 7 — Four Forces of Flight**

### **Lesson Objective:**

Gain an understanding of the principles that guide the basic physics of flight.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 7 — The Four Forces of Flight
- *Private Pilot Textbook*: Chapter 3, Section A — The Four Forces of Flight

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- The Physics of Flight
  - The Four Forces of Flight
  - Newton's Laws
  - Bernoulli's Principle
- Lift
  - Airfoils
  - Wing Design
  - Introduction to Stalls
  - Pilot Control of Lift
- Weight
- Thrust
- Drag
  - Types of Drag
  - Lift Drag Ratio
  - Ground Effect

## **Ground Lesson 8 — Stability**

### **Lesson Objective:**

Become familiar with factors that affect the stability of an airplane.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 8 — Stability
- *Private Pilot Textbook*: Chapter 3, Section B — Stability

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Static and Dynamic Stability
- The Three Axes of Flight
- Longitudinal Stability
- Lateral Stability
- Directional Stability
- Stalls
- Spins

## **Ground Lesson 9 — Aerodynamics of Maneuvering Flight**

### **Lesson Objective:**

Become familiar with the aerodynamic principles that affect basic flight maneuvers.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 9 — Aerodynamics of Maneuvering Flight
- *Private Pilot Textbook*: Chapter 3, Section C — Aerodynamics of Maneuvering Flight

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Climbing Flight
- Left Turning Tendencies
- Descending Flight
- Turning Flight
- Load Factor



## **Ground Lesson 10 — Safety of Flight**

### **Lesson Objective:**

Understand important safety considerations, including collision avoidance precautions, right-of-way rules, minimum safe altitude, and how to prevent controlled flight into terrain.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 10 — Safety of Flight
- *Private Pilot Textbook*: Chapter 4, Section A — Safety of Flight

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Collision Avoidance
  - Visual Scanning
  - Blind Spots
  - Aircraft Lighting
  - Clearing Turns
- Right of Way Rules
- Minimum Safe Altitudes
- Controlled Flight into Terrain (CFIT)
- Taxiing in Wind

## **Ground Lesson 11 — Airports**

### **Lesson Objective:**

Gain a basic understanding of the airport, including runway layout, traffic patterns, visual aids, lighting, and safety considerations.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 11 — Airports
- *Private Pilot Textbook*: Chapter 4, Section B — Airports

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Controlled and Uncontrolled Airports
- Runway Layout
- Traffic Pattern
  - Traffic Patterns
  - Wind Direction
  - Segmented Circles
  - Noise Abatement Procedures
- Airport Visual Aids
  - Runway Markings
  - Taxiway Markings
  - Ramp Area Markings
  - Airport Signs
- Airport Lighting
  - Airport Beacons
  - Runway Edge Lights
  - Taxiway Lighting
  - In-Runway Lighting
  - Visual Glideslope Indicators
  - Approach Lighting Systems
  - Pilot-Controlled Lighting
  - Obstruction Lighting
- Airport Safety Considerations
  - Runway Incursions
  - LAHSO
  - Wake Turbulence

## **Ground Lesson 12 — Aeronautical Charts**

### **Lesson Objective:**

Be able to interpret aeronautical charts.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 12 — Aeronautical Charts
- *Private Pilot Textbook*: Chapter 4, Section C — Aeronautical Charts

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Latitude and Longitude
- Projections
- Types of Aeronautical Charts
- Chart Terrain and Elevation
- Chart Symbology

## **Ground Lesson 13 — Airspace**

### **Lesson Objective:**

Gain an understanding of how to operate in the national airspace system in accordance with FAR Part 91 regulations.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 13 — Airspace
- *Private Pilot Textbook*: Chapter 4, Section D — Airspace

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- The Airspace System
- Class G Airspace
- Class E Airspace
- Class D Airspace
- Class C Airspace
- Class B Airspace
- Class A Airspace
- Special Use Airspace
- Other Airspace Areas
- Additional Airspace Restrictions

## **Ground Lesson 14 — Radar and ATC Services**

### **Lesson Objectives:**

- Become familiar with radar and other services provided by ATC to the pilot, including what the services are, how they work, what equipment is necessary, and how to obtain those services.
- Understand the types of service provided by an FSS.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 14 — Radar And ATC Services
- *Private Pilot Textbook*: Chapter 5, Section A — Radar And ATC Services

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Radar
- Transponder Operation
- VFR Radar Services
- Automatic Terminal Information Service (ATIS)
- Flight Service Stations

## **Ground Lesson 15 — Radio Procedures**

### **Lesson Objective:**

Learn the appropriate terminology, phraseology, and procedures to use in radio communications.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 15 — Radio Procedures
- *Private Pilot Textbook*: Chapter 5, Section B — Radio Procedures

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- VHF Communication Equipment
- Using the Radio
- Communicating Letters and Numbers
- Communicating Time
- Common Traffic Advisory Frequency (CTAF)
- Communicating at Controlled Airports
- Lost Communication Procedures
- Emergency Communication Procedures

## **Ground Lesson 16 — Sources of Flight Information**

### **Lesson Objective:**

Gain a basic understanding of the various FAA publications available to pilots and the content they contain.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 16 — Sources of Flight Information
- *Private Pilot Textbook*: Chapter 5, Section C — Sources of Flight Information

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Locating Flight Information
- Airport/Facility Directory
- Notices to Airmen (NOTAMs)
- Federal Aviation Regulations (FARs)

## **Stage I Exam**

### **Objective:**

Demonstrate comprehension of the material presented in Lessons 2 – 16 or Chapters 1 – 5.

### **Lesson References:**

- *Private Pilot Online*: Ground Lessons 2 – 16
- *Private Pilot: Textbook* Chapters 1 – 5

### **Completion Standards:**

This stage is complete when you have passed the Stage I Exam with a minimum score of 80%, and you have reviewed with your instructor each incorrect response to ensure complete understanding before progressing to Stage II. Your instructor will need to verify that you are eligible to proceed to Stage II.

### **Content:**

- Discovering Aviation (*Private Pilot Online*: Ground Lessons 2 and 3 or *Private Pilot Textbook*: Chapter 1)
- Airplane Systems (*Private Pilot Online*: Ground Lessons 4, 5, and 6 or *Private Pilot Textbook*: Chapter 2)
- Aerodynamic Principles (*Private Pilot Online*: Ground Lessons 7, 8, and 9 or *Private Pilot Textbook*: Chapter 3)
- The Flight Environment (*Private Pilot Online*: Ground Lessons 10, 11, 12, and 13 or *Private Pilot Textbook*: Chapter 4)
- Communications and Flight Information (*Private Pilot Online*: Ground Lessons 14, 15, and 16 or *Private Pilot Textbook*: Chapter 5)



## **Ground Lesson 17 — Basic Weather Theory**

### **Lesson Objective:**

Gain a basic understanding of how atmospheric circulation, atmospheric pressure, and wind patterns affect local and global weather conditions.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 17 — Basic Weather Theory
- *Private Pilot Textbook*: Chapter 6, Section A — Basic Weather Theory

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- The Atmosphere
- Atmospheric Circulation
- Atmospheric Pressure
- Wind Patterns

## **Ground Lesson 18 — Weather Patterns**

### **Lesson Objective:**

Recognize the basic weather patterns and how they impact flight conditions.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 18 — Weather Patterns
- *Private Pilot Textbook*: Chapter 6, Section B — Weather Patterns

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Atmospheric Stability
- Moisture
- Clouds
- Precipitation
- Airmasses
- Fronts

## **Ground Lesson 19 — Weather Hazards**

### **Lesson Objective:**

Become familiar with the recognition and avoidance of weather hazards, particularly those associated with thunderstorms, turbulence, wind shear, icing, and poor visibility.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 19 — Weather Hazards
- *Private Pilot Textbook*: Chapter 6, Section C — Weather Hazards

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Thunderstorms
- Turbulence
- Wind Shear
- Icing
- Restrictions to Visibility
- Volcanic Ash

## **Ground Lesson 20 — Printed Weather Reports and Forecasts**

### **Lesson Objective:**

Learn how to obtain and interpret printed weather reports and forecasts available to pilots.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 20 — Printed Weather Reports and Forecasts
- *Private Pilot Textbook*: Chapter 7, Sections A and B — The Forecasting Process and Printed Reports and Forecasts

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- The Forecasting Process
- Printed Weather Reports
  - METARs
  - Radar Weather Reports
  - PIREPs
- Printed Weather Forecasts
  - TAFs
  - FAs
  - FDs
- Severe Weather Reports and Forecasts
- Hurricane Advisories
- Convective Outlook
- Severe Weather Watch
- AIRMETs
- SIGMETs

## **Ground Lesson 21 — Graphic Weather Reports and Forecasts**

### **Lesson Objective:**

Learn how to obtain and interpret graphic weather reports and forecasts available to pilots.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 21 — Graphic Weather Reports and Forecasts
- *Private Pilot Textbook*: Chapter 7, Section C — Graphic Weather Products

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Graphic Weather Reports
- Graphic Weather Forecasts

## **Ground Lesson 22 — Sources of Weather Information**

### **Lesson Objective:**

Become familiar with the sources of weather information during preflight planning and while in flight.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 22 — Sources of Weather Information
- *Private Pilot Textbook*: Chapter 7, Section D — Sources of Weather Information

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Preflight Weather Sources
- Weather Briefings
- In-flight Weather Sources

## **Ground Lesson 23 — 14 CFR Part 61**

### **Lesson Objective:**

Gain an understanding of selected FAR Part 61 regulations of concern to the student and private pilot.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 23 — 14 CFR Part 61
- *FAR/AIM* manual: Part 61 — Certification: Pilots, Flight Instructors, and Ground Instructors, including the Private Pilot Airplane Recommended Study List.

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Certificates, Ratings, and Authorizations
- Pilot Requirements, Privileges, and Limitations

## **Ground Lesson 24 — 14 CFR Part 91 and NTSB 830**

### **Lesson Objective:**

Gain an understanding of selected FAR Part 91 regulations and National Transportation Safety Board (NTSB) accident and incident reporting requirements.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 24 — 14 CFR Part 91 and NTSB 830
- *FAR/AIM* manual: Part 91 — General Operating and Flight Rules and NTSB 830 — Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records
- *FAR/AIM* manual: Private Pilot Airplane Recommended Study List

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Pilot in Command
- General Operating Rules
- Flight Rules
- Equipment, Instrument, and Certificate Requirements
- Special Flight Operations
- Maintenance and Alterations
- Aircraft Accidents, Incidents, and Overdue Aircraft



## **Stage II Exam**

### **Objective:**

Demonstrate comprehension of the material presented in Ground Lessons 17 — 24, or Chapters 6 and 7 of the *Private Pilot Textbook* and FAR/AIM manual: Parts 61, 91, and NTSB 830.

### **Lesson References:**

- *Private Pilot Online*: Ground Lessons 17 – 24
- *Private Pilot Textbook*: Chapters 6 and 7
- FAR/AIM manual: Parts 61, 91, and NTSB 830

### **Completion Standards:**

This stage is complete when you have passed the Stage II Exam with a minimum score of 80%, and you have reviewed with your instructor each incorrect response to ensure complete understanding before progressing to Stage III. Your instructor will need to verify that you are eligible to proceed to Stage III.

### **Content:**

- Meteorology for Pilots (*Private Pilot Online*: Ground Lessons 17, 18, and 19 or *Private Pilot Textbook*: Chapter 6)
- Interpreting Weather Data (*Private Pilot Online*: Ground Lessons 20, 21, and 22 or *Private Pilot Textbook*: Chapter 7)
- Federal Aviation Regulations (FARs) (*Private Pilot Online*: Ground Lessons 23 and 24 or FAR/AIM manual: Parts 61, 91, and NTSB 830)

## **Ground Lesson 25 — Weight and Balance**

### **Lesson Objective:**

Learn how to calculate weight and balance conditions of a typical training aircraft.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 25 — Weight and Balance
- *Private Pilot Textbook*: Chapter 8, Section B — Weight and Balance

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Importance of Weight and Balance
- Weight and Balance Terminology
- Calculating Total Weight and Center of Gravity
- Methods of Determining Total Weight and Center of Gravity
  - Computation Method
  - Graph Method
  - Table Method
- Using the Weight-Shift Formula

## **Ground Lesson 26 — Predicting Performance**

### **Lesson Objectives:**

- Gain a basic understanding of how to calculate takeoff, climb, cruise, and landing performance using both the table method and graph method.
- Understand the effects of density altitude on performance.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 26 — Predicting Performance
- *Private Pilot Textbook*: Chapter 8, Section A — Predicting Performance

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Factors Affecting Aircraft Performance
- Factors Affecting Takeoff and Landing Performance
- Calculating Takeoff and Landing Performance
- Factors of Climb Performance
- Calculating Climb Performance
- Factors of Cruise Performance
- Calculating Cruise Performance

## **Ground Lesson 27 — Mechanical Flight Computers**

### **Lesson Objective:**

Become familiar with the basic functions of both sides of an aviation flight computer.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 27 — Flight Computers
- *Private Pilot Textbook*: Chapter 8, Section C — Flight Computers

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- The Computer Side
- The Wind Side
- Computing Multipart Problems

## **Ground Lesson 28 — Pilotage and Dead Reckoning**

### **Lesson Objectives:**

- Learn the basic concepts for VFR navigation using pilotage and dead reckoning.
- Become familiar with the guidelines and recommended procedures related to flight planning, use of an FAA Flight Plan, VFR cruising altitudes, and lost procedures.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 28 — Pilotage and Dead Reckoning
- *Private Pilot Textbook*: Chapter 9, Section A — Pilotage and Dead Reckoning

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Pilotage
- Dead Reckoning
- Flight Plan
- Lost Procedures
- Diversion

## **Ground Lesson 29 — VOR Navigation**

### **Lesson Objective:**

Gain basic understanding of VFR navigation using VOR navigation equipment.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 29 — VOR Navigation
- *Private Pilot Textbook*: Chapter 9, Section B — VOR Navigation

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Ground Equipment
- Airborne Equipment
- Navigation Procedures
- Checking VOR Accuracy
- Horizontal Situation Indicator (HSI)
- Distance Measuring Equipment (DME)
- VOR/DME RNAV

## **Ground Lesson 30 — GPS Navigation**

### **Lesson Objective:**

Understand how the GPS satellite-based radio navigation system can be used for VFR navigation and situational awareness.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 30 — GPS Navigation
- *Private Pilot Textbook*: Chapter 9, Section D — Advanced Navigation

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- GPS Overview
- GPS Airborne Equipment
- GPS Basic Navigation Considerations
- GPS Pretakeoff Navigation Preparations
- GPS Inflight Navigation Tasks

## **Ground Lesson 31 — ADF Navigation**

### **Lesson Objective:**

Gain basic understanding of VFR navigation using ADF navigation equipment.

Lesson References:

- *Private Pilot Online*: Ground Lesson 31 — ADF Navigation
- *Private Pilot Textbook*: Chapter 9, Section C — ADF Navigation

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- ADF Equipment Operation
- ADF Navigation Procedures



## **Ground Lesson 32 — Aviation Physiology**

### **Ground Lesson Objective:**

Gain a basic understanding with the limitations of the human body as they relate to the physiological demands of flight, and provide strategies for compensating for those limitations.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 32 — Aviation Physiology
- *Private Pilot Textbook*: Chapter 10, Section A — Aviation Physiology

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Night Vision
- Visual Illusions
- Disorientation
- Hypoxia
- Hyperventilation

## **Ground Lesson 33 — Aeronautical Decision Making**

### **Lesson Objective:**

Understand how to apply the concepts of aeronautical decision making (ADM) to make effective decisions regarding flight operations.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 33 — Aeronautical Decision Making
- *Private Pilot Textbook*: Chapter 10, Section B — Aeronautical Decision Making

### **Completion Standards:**

Complete the evaluation for this lesson with a minimum passing score of 80%.

### **Content:**

- Risk Management Using the 5Ps
- The ADM Process
- Accidents and Incidents
- SRM Concepts — PIC Responsibility
- SRM Concepts — Effective Communication
- SRM Concepts — Resource Use
- SRM Concepts — Workload Management
- SRM Concepts — Situational Awareness

## **Ground Lesson 34 — The Flight Planning Process**

### **Lesson Objective:**

Develop a sound understanding of the planning process for a cross-country flight.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 34 — The Flight Planning Process
- *Private Pilot Textbook*: Chapter 11, Section A — The Flight Planning Process

### **Completion Standards:**

Complete a navigation log and flight plan as assigned by your instructor.

### **Content:**

- Fundamentals of the Flight Planning Process

## **Ground Lesson 35 — The Flight**

### **Lesson Objective:**

Become familiar with the details of flying a typical cross-country flight, including evaluation of in-flight weather and decisions for alternative actions, such as a diversion.

### **Lesson References:**

- *Private Pilot Online*: Ground Lesson 35 — The Flight
- *Private Pilot Textbook*: Chapter 11, Section B — The Flight

### **Completion Standards:**

This is a review of all the ground lessons in the Private Pilot Course and there are no completion standards.

### **Content:**

- Fundamentals of Flight Monitoring

## **Stage III Exam**

### **Objective:**

Demonstrate comprehension of the material presented in Lessons 25 – 35 or Chapters 8 – 11

### **Lesson References:**

- *Private Pilot Online*: Ground Lessons 25 – 35
- *Private Pilot Textbook*: Chapters 8 – 11

### **Completion Standards:**

This stage is complete when you have passed the Stage III Exam with a minimum score of 80%, and you have reviewed with your instructor each incorrect response to ensure complete understanding before progressing to the End-of-Course Final Exam. Your instructor will need to verify that you are eligible to proceed to the End-of-Course Final Exam.

### **Content:**

- Aircraft Performance (*Private Pilot Online*: Ground Lessons 25, 26, and 27 or *Private Pilot Textbook*: Chapter 8)
- Navigation (*Private Pilot Online*: Ground Lessons 28, 29, 30, and 31 or *Private Pilot Textbook*: Chapter 9)
- Human Factors Principles (*Private Pilot Online*: Ground Lessons 32 and 33 or *Private Pilot Textbook*: Chapter 10)
- Flying Cross-Country (*Private Pilot Online*: Ground Lessons 34 and 35 or *Private Pilot Textbook*: Chapter 11)

## **End-of-Course Exam**

### **Objective:**

Demonstrate comprehension of the material presented in *Private Pilot Online*: Ground Lessons 2 – 35, or *Private Pilot Textbook*: Chapters 1 – 11 and *FAR/AIM* manual: Parts 61, 91, and NTSB 830.

### **Lesson References:**

- *Private Online*: Ground Lessons 2 – 35
- *Private Pilot*: Chapters 1 – 11 and *FAR/AIM* manual: Parts 61, 91, and NTSB 830

### **Completion Standards:**

The ground school portion of the Private Pilot Certification Course is complete when you have passed the End-of-Course Final Exam with a minimum score of 80%, and you have reviewed with your instructor each incorrect response to ensure complete understanding.

### **Content:**

- Discovering Aviation (*Private Pilot Online*: Ground Lessons 2 and 3 or *Private Pilot Textbook*: Chapter 1)
- Airplane Systems (*Private Pilot Online*: Ground Lessons 4, 5, and 6 or *Private Pilot Textbook*: Chapter 2)
- Aerodynamic Principles (*Private Pilot Online*: Ground Lessons 7, 8, and 9 or *Private Pilot Textbook*: Chapter 3)
- The Flight Environment (*Private Pilot Online*: Ground Lessons 10, 11, 12, and 13 or *Private Pilot Textbook*: Chapter 4)
- Communications and Flight Information (*Private Pilot Online*: Ground Lessons 14, 15, and 16 or *Private Pilot Textbook*: Chapter 5)
- Meteorology for Pilots (*Private Pilot Online*: Ground Lessons 17, 18, and 19 or *Private Pilot Textbook*: Chapter 6)
- Interpreting Weather Data (*Private Pilot Online*: Ground Lessons 20, 21, 22, and 23 or *Private Pilot Textbook*: Chapter 7)
- Federal Aviation Regulations (*Private Pilot Online*: Ground Lessons 23 and 24 or *FAR/AIM* manual: Parts 61, 91, and NTSB 830)
- Aircraft Performance (*Private Pilot Online*: Ground Lessons 25, 26, and 27 or *Private Pilot Textbook*: Chapter 8)

- Navigation (*Private Pilot Online*: Ground Lessons 28, 29, 30, and 31 or *Private Pilot Textbook*: Chapter 9)
- Human Factors Principles (*Private Pilot Online*: Ground Lessons 32 and 33 or *Private Pilot Textbook*: Chapter 10)
- Flying Cross-Country (*Private Pilot Online*: Ground Lessons 34 and 35 or *Private Pilot Textbook*: Chapter 11)



# **ACT Private Pilot**

# **FLIGHT LESSONS**



## **Flight Lesson 1 — Introductory Flight**

### **Objectives**

- Review and understand the use of checklists during the preflight inspection, engine starting, before-takeoff, after-landing, parking, and securing procedures.
- Identify the required certificates and documents on board the airplane.
- Locate and understand how to use onboard safety equipment including the fire extinguisher and first aid kit.
- Understand the technique for the positive exchange of flight controls.
- Understand how to taxi the airplane including using the brakes.
- Become familiar with collision avoidance procedures.
- Become familiar with a normal takeoff and climb; and normal approach and landing.
- Understand how to conduct basic maneuvers including straight-and-level flight, climbs, descents, leveloffs, and medium-banked turns.
- Understand how to use the trim controls to relieve control pressures.

### **Pre-Flight Discussion Items**

- Certificates and Documents
- Review of Flight Lesson
- Risk Management
- SRM Concepts
- ADM Process

### **Introduced In-Flight Items:**

- Certificates and Documents
- Use of Checklists
- Preflight Inspection
- Location of First Aid Kit
- Positive Exchange of Flight Controls
- Engine Starting
- Taxiing
- Before-Takeoff Check
- Collision Avoidance Procedures
- Normal Takeoff and Climb
- Use of Trim Control
- Straight-and-Level Flight
- Climbs, Descents, and Leveloffs
- Medium-Banked Turns (Both Directions)
- Normal Approach and Landing
- After-Landing Procedures, Parking, and Securing

## **Flight Lesson 2 — Ground Operations and Basic Maneuvers I**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Conduct a preflight inspection to determine airplane airworthiness and become familiar with the proper procedures if you find an inoperative instrument or piece of equipment.
- Understand the use of the airplane logbooks and the inspection and maintenance requirements.
- Understand what equipment must be operational to conduct VFR flight safely and legally.
- Become familiar with how the airplane is serviced, how to request airplane servicing, and how to check the airplane after it is serviced.
- Demonstrate understanding of radio and avionics basic operations and become familiar with radio communications procedures and proper phraseology.
- Follow techniques for effective visual scanning and incorporate proper collision avoidance procedures.
- Observe the effects of airspeed and configuration changes on airplane flight characteristics.
- Conduct flight maneuvers, including turns to headings, using positive airplane control.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- Certificates and Documents
- Airworthiness Requirements
- Airplane Logbooks
- Airplane Servicing
- Fuel Grades
- Single Pilot Resource Management
- Risk Management
- Fitness For Flight
- Personal Minimums
- Collision Avoidance Procedures
- Positive Exchange of Flight Controls
- Positive Airplane Control
- Airspeed and Configuration Changes

### **Introduced In-Flight Items:**

- Airworthiness Requirements
- Airplane Servicing
- Minimum Equipment for VFR
- Positive Airplane Control
- Radio Communications
- Turns to Heading
- Airspeed Configuration Changes

## **Flight Lesson 3 — Ground Operations and Basic Maneuvers II**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Recognize the normal operation of systems as well as the instrument indications of a normally operating system.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- Engine Starting
- Preflight Activities
- Pilots Operating Handbook (POH)
- Personal Minimums
- Risk Management

### **Introduced In-Flight Items:**

- Operation of Systems

## **Flight Lesson 4 — Flight Maneuvers and Attitude Instrument Flying**

A view-limiting device is required for the 0.3 hours of dual instrument time allocated to this flight lesson.

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Conduct flight at various airspeeds from cruise to slow flight.
- Understand how to configure the airplane for slow flight and maneuver during slow flight.
- Conduct power-off and power-on stalls and recovery procedures.
- Conduct climbing and descending turns using outside visual references.
- Conduct straight-and-level flight by reference to flight instruments.
- Conduct constant airspeed climbs and descents by reference to flight instruments.
- Conduct steep turns.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- Risk Management
- SRM Concepts
  - Workload Management
  - Pilot-In-Command Responsibilities
  - Personal Minimums
  - Situational Awareness
- Basic Instrument Maneuvers
- Preflight Planning
- Operation of Powerplant
- Aircraft Systems
- Visual Scanning and Collision Avoidance
- Realistic Distractions

### **Introduced In-Flight Items:**

- Flights at Various Airspeeds From Cruise to Slow Flight
- Maneuvering During Slow Flight
- Power-Off Stalls
- Power-On Stalls
- Climbing and Descending Turns
- Turns to a Heading
- Straight-and-Level Flight
- Constant Airspeed Climbs
- Constant Airspeed Descents
- Steep Turns

## **Flight Lesson 5 — Ground Reference Maneuvers**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Understand the meaning of various airport, runway and taxiway signs, markings and lighting.
- Understand proper flight control placement to use when taxiing in crosswinds.
- Understand the proper flight techniques and the appropriate wind correction techniques for flying S-turns and turns around a point.
- Conduct flight at approach airspeed to a normal landing.
- Understand the proper flight techniques and the appropriate wind correction techniques for flying a rectangular course and for operating in the traffic pattern.
- Understand factors that contribute to controlled flight into terrain (CFIT) accidents and preventive techniques for avoiding CFIT.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Airport, Runway, and Taxiway Signs, Markings, and Lighting
- Determining Wind Direction
- Ground Operations including Crosswind Taxiing
- Controlled Flight Into Terrain
- Wire Strike Avoidance

### **Introduced In-Flight Items:**

- Airport, Runway, and Taxiway Signs, Markings, and Lighting
- Crosswind Taxi
- S-Turns
- Turns Around a Point
- Rectangular Courses
- Flight at Approach Speeds
- Traffic Patterns
- Controlled Flight Into Terrain

## **Flight Lesson 6 — Abnormal and Emergency**

A view-limiting device is required for the 0.3 hours of dual instrument time allocated to this flight lesson.

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Understand how to cope with systems and equipment malfunctions using the proper abnormal and emergency procedures.
- Understand how to cope with engine failures by performing simulated emergency approach and landings.
- Understand how to prepare and use emergency equipment and survival gear.
- Conduct an emergency descent.
- Conduct climbing and descending turns and turns to headings by instrument reference.
- Conduct flight at slow airspeeds with realistic distractions.
- Understand how to maintain positive control of the airplane maneuvering during slow flight and solely by reference to flight instruments.
- Recognize and recover from inadvertent stalls entered from straight flight and from turns.
- Understand stalls and spins and their recovery procedures as your instructor demonstrates secondary, accelerated, cross-control, and elevator trim stalls.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Abnormal and Emergency Procedures
  - Engine
  - Electrical
  - Fuel
- Emergency Field Selection
- Realistic Distractions

### **Introduced In-Flight Items:**

- Emergency Operations
- Systems and Equipment Failures
- Emergency Descent
- Emergency Approach and Landing (Simulated)
- Emergency Equipment and Survival Gear
- Climbing and Descending Turns
- Maneuvering During Slow Flight
- Flight and Slow Airspeeds with Realistic Distractions
- Recognition and Recovery from Inadvertent Stalls Entered from S&L Flight
- Spin Awareness
- Demonstrated Stalls

## **Flight Lesson 7 — Airport Operations**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Conduct go-arounds, slips, and crosswind takeoffs and landings.
- Understand the basic procedures for Land and Hold Short Operations (LAHSO).
- Understand the importance and the procedures for avoiding wake turbulence from certain large aircraft.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Communications
- Lost Communications Procedures
- Runway Incursion Avoidance
- Land and Hold Short Operations (LAHSO) (Solo Restrictions)
- Wake Turbulence Avoidance

### **Introduced In-Flight Items:**

- Crosswind Takeoff and Climb
- Crosswind Approach and Landing
- Runway Incursion Avoidance
- Land and Hold Short Operations (LAHSO)
  - Solo Restrictions on LAHSO Operations
- Wake Turbulence Avoidance
- Go-Around/Rejected Landing
- Forward Slips to Landing
- ATC Light Signals

## **Flight Lesson 8 — Review for Solo (Maneuvers Proficiency)**

A view-limiting device is required for the 0.2 hour of dual instrument time allocated to this flight lesson.

### **Objective**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Airspace Rules and Procedures for the Airport where Solo Flight will be performed.
- Pilot in Command Responsibility.

### **Introduced In-Flight Items:**

- None



## **Flight Lesson 9 — Review for Solo (Maneuvers Proficiency)**

A view-limiting device is required for the 0.2 hour of dual instrument time allocated to this flight lesson.

### **Objective**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Airspace Rules and Procedures for the Airport where Solo Flight will be performed.

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 10 — First Solo**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Demonstrate proficiency in takeoff and landing procedures at a level appropriate for supervised solo flight.
- Fly your first supervised solo flight in the local traffic pattern.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Pre-Solo Flight Training
- Student Supervised Solo Flight Operations in Local Traffic Pattern
- Airspace Rules and Procedures for the Airport where Solo Flight will be performed.

### **Introduced In-Flight Items:**

- Solo Operations
  - Supervised Solo
  - Radio Communications
  - Taxiing
  - Before Takeoff Check
  - Normal Takeoff and Climb (3)
  - Traffic Pattern
  - Normal Approach and Landing (3)
  - After Landing Parking and Securing

## **Flight Lesson 11 — Flight Stage I Check**

### **Objectives**

- Demonstrate the tasks listed in the Review table of the Mission at a level appropriate to Stage I of the Flight Training Syllabus, as determined by the chief instructor, assistant chief instructor, or the designated check instructor.
- Demonstrate proficiency in maneuvers, procedures, and knowledge areas at a level appropriate for departing the traffic pattern in future solo flights

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Maneuvers
- Procedures
- Applicable Rules

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 12 — Performance Takeoffs and Landings**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Demonstrate the basic procedures for short-field and soft-field takeoffs, climbs, approaches, and landings.
- Describe the precautions associated with low-level wind shear.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Weight and Balance Computations
- Performance Estimates
- Effects of High Density Altitudes

### **Introduced In-Flight Items:**

- Low Level Wind Shear Precautions
- Short-Field Takeoff and Maximum Performance Climbs
- Short-Field Approach and Landings
- Soft-Field Takeoff and Climbs
- Soft-Field Approach and Landing

## **Flight Lesson 13 — Solo**

### **Objective**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Airspace Rules and Procedures for the Airport where Solo Flight will be conducted.

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 14 — Navigation I**

### **Objective**

- Complete the tasks listed in the Review table of the mission to gain proficiency.
- Understand VOR orientation and how to track specified radials inbound and outbound.
- Understand NDB orientation (if an ADF is available in the airplane) and how to home to a station.
- Demonstrate GPS setup (if GPS is available in the airplane) and programming, including creating routes to nearby airports and other waypoints.
- Understand GPS orientation and how to track a course.
- Understand power-off and power-on stalls and recoveries solely by reference to the flight instruments.
- Understand recovering from both nose-low and nose-high unusual attitudes solely by reference to the flight instruments.
- Demonstrate knowledge and use of communication radios, navigation radios and systems, and obtaining radar services while flying solely by reference to the flight instruments

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Recovery From Unusual Attitudes
- Radio Communication, Navigation Systems/Facilities, and Radar Service
- Disorientation

### **Introduced In-Flight Items:**

- VOR Orientation and Tracking
- GPS Setup, Programming, and Flight Plan Entry
- GPS Orientation and Tracking
- Power-Off Stalls
- Power-On Stalls
- Recovery From Unusual Flight Attitudes
- Using Radio Communication, Navigation Systems/Facilities, and Radar Services

## **Flight Lesson 15 — Solo**

### **Objective**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 16 — Navigation II**

A view-limiting device is required for the 0.5 hours of dual instrument time allocated to this flight lesson.

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Understand how to conduct VOR orientation and tracking while maintaining positive control of the airplane solely by reference to flight instruments.
- Understand how to conduct GPS orientation and tracking while maintaining positive control of the airplane solely by reference to flight instruments

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Flight Instrument Function, Common Errors, and Limitations
- Navigation Instruments
- Operations in Turbulence
- Partial Panel

### **Introduced In-Flight Items:**

- VOR Orientation and Tracking
- GPS Orientation and Tracking



## **Flight Lesson 17 — Night Operations**

Night

### **Objectives**

- Understand the special considerations for planning and preparing for a night flight.
- Understand the aeromedical factors unique to night flight.
- Understand the special considerations for using checklists and performing a preflight inspection at night.
- Understand the additional equipment that the FARs require for an airplane to be airworthy for a night flight.
- Understand the special considerations for taxiing and performing the Before Takeoff check when conducting a night flight.
- Understand the special considerations for performing stalls, steep turns, slow flight, and other flight maneuvers at night.
- Understand the visual cues and other special considerations for performing takeoffs and landings at night.
- Understand the special considerations for performing go-arounds (rejected landings) at night.
- Understand the special considerations for navigating at night.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Night Vision
- Disorientation
- Visual Illusions
- Night Scanning and Collision Avoidance
- Aircraft, Airport, and Obstruction Lighting
- Personal Equipment

### **Introduced In-Flight Items:**

- Preparation for Night Flight
- Aeromedical Factors
- Flight Planning Considerations
- Use of Checklists at Night
- Preflight Inspection at Night
- Airworthiness Requirements
- Taxiing
- Before Takeoff Check
- Power-Off Stalls
- Power-On Stalls

## **Flight Lesson 17 — Night Operations (Continued)**

- Steep Turns
- Maneuvering During Slow Flight
- Normal Takeoffs and Climbs (5 minimum)
- Normal Approaches and Landings (5 minimum)
- Short-Field Takeoffs and Landings
- Maximum Performance Climbs
- Landing With an Inoperative Landing Light
- Soft-Field Takeoffs and Landings
- Go-Around/Rejected Landing
- VFR Navigation

## **Flight Lesson 18 — Cross-Country**

A view-limiting device is required for the 0.5 hours of dual instrument time allocated to this flight lesson.

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Apply the following knowledge and skills to conduct a cross-country flight:
  - Airplane performance and limitations
  - Operating at controlled airports including the use of ATIS
  - Operating at uncontrolled airports, including the use of a common traffic advisory frequency (CTAF)
  - Departure
  - Radio navigation, including position fixes
  - Use of radar services
  - Collision avoidance procedures
  - Go-around/rejected landing
- Learn and use the following procedures to conduct a cross-country flight:
  - Flight planning
  - Operating in the National Airspace System, including federal airways
  - Opening and closing a flight plan
  - Power settings and mixture control
  - Pilotage and dead reckoning, including estimates of groundspeed and ETA
  - Diversion to an alternate
  - Lost procedures
- Plan and complete a flight that includes a point of landing at least a straight-line distance of more than 50 nautical miles from the original point of departure.
- Gain confidence conducting flights out of the local training area.
- Demonstrate the use of GPS, VOR, ADF, and radar services under simulated instrument flight conditions.
- Prepare to make cross-country flights as the sole occupant of the airplane.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Sectional Charts
- Flight Publications
- Route Selection and Basic Navigation Procedures (Pilotage/Dead Reckoning)
- Weather Information
- Fuel Requirements
- Performance Limitations
- Navigation Log
- FAA Flight Plan (Open, Close, Amend)

## **Flight Lesson 18 — Cross-Country (Continued)**

- Weight and Balance (CCX Operations)
- Basic Instrument Maneuvers and Procedures

### **Introduced In-Flight Items:**

- Performance and Limitations
- Flight Plan Considerations
- Departure
- Opening Flight Plan
- Course Interception
- Pilotage
- Dead Reckoning
- VOR Navigation (if Applicable)
- ADF Navigation (if Applicable)
- GPS Navigation (if Applicable)
- Use of Radar Services (VR)
- Power Settings and Mixture Control
- Diversion to an Alternate
- Lost Procedures
- Estimates of Groundspeed and ETA
- Position Fix by Navigation Facility and/or GPS
- Flight on Federal Airways
- Collision Avoidance Procedures
- Closing the Flight Plan
- VOR Navigation (if Applicable)
- ADF Navigation (if Applicable)
- GPS Navigation (if Applicable)
- Use of Radar Services (IR)
- National Airspace System
- Controlled Airports
- Use of ATIS
- Use of Approach and Departure Control

## **Flight Lesson 19 — Night Cross-Country**

### Night

A view-limiting device is required for the 0.5 hours of dual instrument time allocated to this flight lesson.

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Apply the following knowledge and skills to conduct a night cross-country flight:
  - Use of ATIS, Approach, and Departure Control
  - Pilotage and Dead Reckoning
  - Radio Navigation
  - Emergency Operations
  - Use of Unfamiliar Airports
  - Diversion to an Alternate
  - Lost Procedures
  - Recovery From Unusual Flight Attitudes (IR)
- Complete a night flight that includes a total distance of more than 100 nautical miles and a point of landing and at least a straight-line distance of more than 50 nautical miles from the original point of departure.
- By the end of this flight, have completed 10 night takeoffs and landings to a full stop with each involving flight in the traffic pattern.\*
- Recognize the importance of thorough planning and accurate navigation.
- Demonstrate precise aircraft control and the navigation accuracy required for night VFR cross-country flights.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Night Orientation, Navigation, and Chart Reading Techniques
- Weather Information
- Routes Selection
- Altitude Selection
- Fuel Requirements
- Departure and Arrival Procedures

### **Introduced In-Flight Items:**

- Use of ATIS, Approach, and Departure Control
- Pilotage
- Dead Reckoning
- Radio Navigation (VR and IR)
- Emergency Operations

## **Flight Lesson 19 — Night Cross-Country (Continued)**

- Use of Unfamiliar Airports
- Diversion to an Alternate
- Lost Procedures
- Recovery From Unusual Flight Attitudes (IR) VOR Orientation and Tracking
- GPS Orientation and Tracking

## **Flight Lesson 20 — Solo Cross-Country**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Plan and complete a flight that includes a point of landing at least a straight-line distance of more than 50 nautical miles from the original point of departure.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Solo Cross-Country Briefing
- Required Documents and Endorsements
- Basic VFR Weather Minimums
- Airspace Rules
- Enroute Communication
- ATC Services Available to Pilots
- Enroute Weather Information
- VFR Position Reports
- Emergency Operations
- Lost Procedures
- Diversion
- Lost Communication Procedures
- ATC Light Signals

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 21 — Flight Stage II Check**

### **Objectives**

- Demonstrate the tasks listed in the Review table of the Mission at a level appropriate to Stage II of the Flight Training Syllabus, as determined by the chief instructor, assistant chief instructor, or the designated check instructor.
- Demonstrate proficiency in takeoff, landing, and stall recognition/recovery procedures.
- Demonstrate proficiency in planning and conducting a cross-country flight, as well as the safe and efficient operation of the airplane during other phases of flight introduced and reviewed in Stages I and II.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Conduct of Stage II Check
- Maneuvers
- Procedures
- Acceptable Performance Criteria
- Applicable Rules

### **Introduced In-Flight Items:**

- None



## **Flight Lesson 22 — Solo Cross-Country**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Plan and complete a flight that includes a point of landing at least a straight-line distance of more than 50 nautical miles from the original point of departure.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Required Documents and Endorsements
- Basic VFR Weather Minimums
- Route of Flight/Alternates
- Emergency Operations
- Lost Procedures
- Diversion
- ETA Estimates
- Fuel Requirements
- Aeronautical Charts and Publications that
- Apply to the Flight
- Airspace Rules Pertinent to the Planned Route of Flight
- Enroute Communications, ATC Services, and Pertinent Sources of Weather Information

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 23 — Solo Cross-Country**

### **Objectives**

- Complete the tasks listed in the Review table of the Mission to gain proficiency.
- Complete the long cross-country requirement. This flight should be at least 100 nautical miles, total distance, with landings at a minimum of three points, including a straight-line segment at least 50 nautical miles between takeoff and landing locations.
- By the end of this lesson, completed three takeoffs and landings to a full stop at an airport with an operating control tower.
- Follow cross-country procedures and rules for flight within Class D airspace.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Review of the Planned Flight
- FAA Flight Plan (How to Open, Close, or Amend)
- Use of the Magnetic Compass
- Emergency Operations
- Enroute Communications and Facilities
- In-Flight Weather Analysis
- Unfamiliar Airport Operations

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 24 — Prep for Flight Check I**

At the instructor's discretion, you may review flight by reference to flight instruments. A view-limiting device is required for any dual instrument time.

### **Objectives**

- Correct any deficient skill or knowledge areas listed in the Review table of the Mission.
- Demonstrate safe and efficient operation of the aircraft at the proficiency level of a private pilot.
- Demonstrate aeronautical decision making at the proficiency level of a private pilot.
- Plan and conduct a local or cross-country flight as assigned by your instructor.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Any Previously Discussed Item

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 25 — Prep for Flight Check II**

At the instructor's discretion, you may review flight by reference to flight instruments. A view-limiting device is required for any dual instrument time.

### **Objectives**

- Correct any deficient skill or knowledge areas listed in the Review table of the Mission.
- Demonstrate safe and efficient operation of the aircraft at the proficiency level of a private pilot.
- Demonstrate aeronautical decision making at the proficiency level of a private pilot.
- Plan and conduct a local or cross-country flight as assigned by your instructor.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Any Previously Discussed Item
- Pilot Training Standards (PTS) for FAA Practical

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 26 — Flight Stage III Check**

### **Objectives**

- Demonstrate the tasks listed in the Review table of the Mission at the proficiency level of a private pilot, as determined by the chief instructor, assistant chief instructor, or the designated check instructor.
- Demonstrate proficiency in planning and conducting a cross-country flight, as well as demonstrate safe and efficient operation of the airplane during other phases of flight reviewed in Stage III.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Review the Stage III Check
- Maneuvers
- Procedures
- Acceptable Performance Criteria
- Applicable Rules
- Any Previously Discussed Item
- Pilot Training Standards (PTS) for FAA Practical

### **Introduced In-Flight Items:**

- None

## **Flight Lesson 27 — End-of-Course Flight Check**

### **Objectives**

- Demonstrate the tasks listed in the Review table of the Mission at the proficiency level of a private pilot, as determined by the chief instructor, assistant chief instructor, or the designated check instructor.
- Demonstrate overall proficiency, skill, and knowledge in private pilot operations.
- Demonstrate the ability to use sound judgment and decision-making capabilities necessary for a private pilot to operate safely and efficiently within the National Airspace System of the United States.

### **Pre-Flight Discussion Items**

- Lesson Objectives and Completion Standards
- SRM Concepts, ADM Process, Risk Management, Personal Minimums
- Review the Stage III Check
- Maneuvers
- Procedures
- Acceptable Performance Criteria
- Applicable Rules
- Any Previously Discussed Item
- Pilot Training Standards (PTS) for FAA Practical

### **Introduced In-Flight Items:**

- None