



RAPTOR FLIGHT LLC

PPL FLIGHT SYLLABUS V1

Phase 1: Pre-Solo Flight

Phase overview:

The lessons in this phase are designed to prepare the student for the first solo flight by introducing and building proficiency in all required maneuvers and procedures outlined in **14 CFR §61.87(d)**.

This phase focuses on developing essential skills, including:

- Preflight preparation, taxiing, and surface operations
- Takeoffs and landings (normal and crosswind)
- Straight-and-level flight, climbs, descents, and turns
- Airport traffic patterns and collision avoidance
- Slow flight, stalls, and emergency procedures
- Ground reference maneuvers, slips, and go-arounds

These maneuvers will be practiced repeatedly until the student demonstrates the proficiency required to safely conduct a solo flight. Safety is always the top priority in aviation, and lessons may be repeated as needed to ensure confidence and consistent performance. The goal of this phase is to ensure the student is fully prepared to safely operate the aircraft independently.

P1-L1: Fundamentals (Discovery Flight):

Objective

While flying west toward the practice area, the student will be introduced to the four fundamentals of flight. The lesson will include attitude changes, climbs, descents, straight-and-level flight, and turns. Slow flight may be introduced if time permits.

Flight Activity

Fly west toward the practice area. While en route to and from the practice area, ensure the student maintains the assigned heading, altitude, and airspeed.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Checklist usage
- Introduction to flight controls
- Engine controls
- Preflight assessment
- Engine starting
- Taxiing
- Introduction to collision avoidance
- Before takeoff check
- Introduction to normal takeoff and climb
- Introduction to straight-and-level flight
- Introduction to climbs
- Introduction to descents
- Introduction to turns
- Introduction to pattern entry
- Introduction to normal approach and landing
- Introduction to after-landing procedures
- Introduction to post-flight procedures

P1-L2: Climbs, Descents, and Turns:

Objective

During this lesson, the student will be introduced to constant-rate climbs, descents, and turns, as well as a review of maneuvers taught up to this point.

Flight Activity

Fly west toward the practice area. While en route to and from the practice area, ensure the student maintains the assigned heading, altitude, and airspeed.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Preflight assessment
- Taxiing
- Collision avoidance
- Straight-and-level flight
- Climbs to altitude
- Descents to altitude
- Turns to headings and landmarks
- Introduction to slow flight
- Traffic pattern operations
- Introduction to normal approach and landing
- Post-flight procedures

P1-L3: Slow Flight and Stalls:

Objective

During this lesson, the student will be introduced to flying the aircraft at various airspeeds and performing imminent stalls and recoveries, as well as a review of maneuvers taught up to this point.

Flight Activity

Fly west toward the practice area.

For stalls, brief the student on the importance of maintaining coordinated flight during stall entry as well as turning tendencies and what to do should an incipient spin develop (power idle, opposite rudder, ailerons neutral, yoke forward to break the stall).

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Select an entry altitude that allows the maneuver to be completed no lower than **1,500 feet AGL**
- Maintain coordinated flight throughout all maneuvers

- **Slow flight:** Establish and maintain an airspeed at which any further increase in angle of attack, increase in load factor, or reduction in power would result in a stall warning
- Perform coordinated **straight-and-level flight, turns, climbs, and descents** without activating a stall warning
- Maintain **altitude ±100 feet, heading ±10°, airspeed +10 / -0 knots, and bank ±10°**

- **Power-off stalls:** Configure the airplane in the **approach or landing configuration** and establish a stabilized descent
- Maintain **heading ±10° in straight flight or bank not to exceed 20°, ±10° in turning flight**
- Recognize cues of the impending stall and execute a **prompt stall recovery**

- **Power-on stalls:** Establish the **takeoff, departure, or cruise configuration** and set **no less than 65% power**
- Transition smoothly to the pitch attitude that induces the stall
- Maintain **heading ±10° in straight flight or bank not to exceed 20°, ±10° in turning flight**
- Recognize cues of the impending stall and execute a **prompt stall recovery**

P1-L4: Steep Turns:

Objective

During this lesson, the student will be introduced to steep turns and the changes in the four fundamentals of flight that occur when the aircraft is not in straight-and-level flight, as well as a review of maneuvers taught up to this point.

Flight Activity

Fly west toward the practice area. While en route to and from the practice area, ensure the student maintains the assigned heading, altitude, and airspeed. Ensure the aircraft remains well below Class B airspace. Show the student the flight track in ForeFlight.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Select an entry altitude that allows the maneuver to be completed safely, typically no lower than **1,500 feet AGL**.
- Clear the area and establish the recommended entry configuration and airspeed
- Roll smoothly into a coordinated **360° steep turn** with approximately a **45° bank**
- Maintain coordinated flight throughout the maneuver
- Maintain:
 - Altitude ± 100 feet
 - Airspeed ± 10 knots
 - Bank angle $\pm 5^\circ$
- Roll out on the **entry heading $\pm 10^\circ$**

P1-L5: Ground Reference Maneuvers:

Objective

During this lesson, the student will be introduced to ground reference maneuvers and the effects of wind, as well as a review of maneuvers taught up to this point.

Flight Activity

Practice the following maneuvers:

Rectangular course or pattern work

S-turns

Turns around a point

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Select an entry altitude of **600 to 1,000 feet AGL** and clear the area before beginning the maneuver
- **Rectangular course:** Enter a left or right pattern **45° to the downwind leg** at an appropriate distance from the selected reference area
- **S-turns:** Enter **perpendicular to the selected reference line** at an appropriate distance from the reference area
- **Turns around a point:** Enter at an appropriate distance from the reference point to maintain a constant radius

- Apply appropriate **wind-drift correction** during straight and turning flight to maintain the desired ground track
- Divide attention between **airplane control, traffic avoidance, and ground track** while maintaining coordinated flight
- Maintain:
 - Altitude ± 100 feet
 - Airspeed ± 10 knots
 - Exit heading $\pm 10^\circ$

P1-L6: Emergency Maneuvers:

Objective

During this lesson, the student will be introduced to emergency flight maneuvers, rejected takeoffs, and go-around procedures, as well as a review of maneuvers taught up to this point.

Flight Activity

Fly west toward the practice area. While en route to and from the practice area, ensure the student maintains the assigned heading, altitude, and airspeed.

The maneuvers to be performed include:

- Emergency descent
- Emergency approach and landing

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

Emergency descent:

- Use a bank angle between **30° and 45°** to maintain positive load factors during the descent
- Maintain appropriate airspeed **+0 / -10 knots**
- Level off at the specified altitude **±100 feet**

Emergency approach and landing:

- Establish and maintain **best glide airspeed ±10 knots**
- Select a suitable landing area considering **wind, terrain, obstructions, and glide distance**
- Plan and follow a flight path to the selected landing area
- Prepare the aircraft for landing as appropriate
- Complete the appropriate checklist

P1-L7: Regular Landings:

Objective

During this lesson, the student will be introduced to normal landings and traffic pattern work.

Flight Activity

Practice traffic pattern procedures and normal landings.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Establish a pitch attitude to maintain the manufacturer's recommended speed or **VY, +10 / -5 knots**
- Maintain **VY +10 / -5 knots** to a safe maneuvering altitude
- Maintain directional control and proper **wind-drift correction** during takeoff and climb

- Maintain the manufacturer's published **approach airspeed**, or if unavailable **not more than 1.3 VSO, +10 / -5 knots**, with gust factor applied
- Touch down with the proper pitch attitude **within 400 feet beyond or on the specified point**, with no side drift and the airplane aligned with the **runway centerline / landing path**

P1-L8: Regular Landings (Extended):

Objective

During this lesson, the student will be introduced to normal landings and traffic pattern work.

Flight Activity

Practice normal landings and pattern work. Forward slips to a landing and rejected landings/go-arounds will also be covered. Include no-flap landings.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Establish a pitch attitude to maintain the manufacturer's recommended speed or **VY, +10 / -5 knots**
- Maintain **VY +10 / -5 knots** to a safe maneuvering altitude
- Maintain directional control and proper **wind-drift correction** during takeoff and climb

- Maintain the manufacturer's published **approach airspeed**, or if unavailable **not more than 1.3 VSO, +10 / -5 knots**, with gust factor applied
- Touch down with the proper pitch attitude **within 400 feet beyond or on the specified point**, with no side drift and the airplane aligned with the **runway centerline / landing path**
- Perform a **no-flap landing**

P1-L9: Short/Soft Takeoff/Landing:

Objective

During this lesson, the student will be introduced to slips, as well as short-field and soft-field takeoffs and landings.

Flight Activity

Practice slips, short-field takeoffs and landings, and soft-field takeoffs and landings.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- **Soft-field takeoff:** Lift off at the lowest possible airspeed, remain in **ground effect**, and accelerate to **VX or VY +10 / -5 knots** while maintaining directional control and wind-drift correction
- **Soft-field approach and landing:** Maintain a **stabilized approach** at the manufacturer's recommended airspeed (or **≤1.3 VSO +10 / -5 knots**), apply proper crosswind correction, keep the **nosewheel off the surface**, and touch down with **minimum sink rate and no side drift**
- **Short-field takeoff:** Rotate at the recommended airspeed and climb at **VX +10 / -5 knots** until clearing the obstacle or **50 feet AGL**, then transition to **VY +10 / -5 knots** to a safe maneuvering altitude
- **Short-field approach and landing:** Maintain recommended approach airspeed (or **≤1.3 VSO +10 / -5 knots**) and touch down **within 200 feet beyond or on the specified point** with **minimum float, no side drift, and runway alignment**

P1-L10: Maneuver Review:

Objective

During this lesson, the student will review previously taught flight maneuvers and landings.

Flight Activity

Review and practice previously taught flight maneuvers and landing procedures.

Duration

The flight is expected to last approximately 1.5 hours.

Flight Tasks

- Normal takeoff
- Constant rate/speed climbs
- Constant rate/speed descents
- Power-on stalls
- Power-off stalls
- Stall recovery
- Spin awareness
- Stalls in landing configuration
- Normal approach
- Traffic pattern operations
- Normal landing

Phase 2: Cross Country

Phase overview:

During this phase, the student will learn how to plan and conduct cross-country flights using pilotage, dead reckoning, and navigation. The student will also learn how to use ATC services under VFR conditions and become familiar with the techniques and procedures associated with night flying.

By the end of this phase, the student should ideally have completed the Gold Seal Ground School and taken the FAA knowledge (written) exam.

Completion Standards

This stage is complete when the student demonstrates the ability to plan and conduct solo cross-country flights using pilotage, dead reckoning, and navigation under VFR conditions. The student must also be able to obtain and evaluate weather forecasts, reports, and current flight conditions to determine whether VFR flight can be conducted safely.

P2-L1: Pilotage and Dead Reckoning:

Objective

During this lesson, the student will be introduced to navigation techniques such as dead reckoning and pilotage.

Flight Activity

Conduct a cross-country flight from T67 to KRPB, KSEP, or another airport at least 50 NM from T67 while practicing dead reckoning and pilotage.

Duration

The flight is expected to last approximately 1.5 to 2.5 hours.

Flight Tasks

- Prepare and use a flight log
- Navigate by pilotage (reference to visible landmarks)
- Navigate using dead reckoning with pre-computed headings, groundspeeds, and elapsed time
- Verify position within **3 nautical miles** of the planned route
- Arrive at en route checkpoints within **5 minutes** of the planned or revised ETA and provide a destination estimate
- Maintain altitude **±200 feet** and heading **±15°**

P2-L2: Navigational Aids:

Objective

During this lesson, the student will be introduced to navigational aids.

Flight Activity

Conduct a cross-country flight from T67 to KRPB, KSEP, or another airport at least 50 NM from T67 while using navigational aids.

Duration

The flight is expected to last approximately 1.5 to 2.5 hours.

Flight Tasks

- Use an airborne electronic navigation system
- Determine the airplane's position using the navigation system
- Intercept and track a specified course, radial, or bearing
- Recognize and describe indications of station or waypoint passage
- Maintain altitude **±200 feet** and heading **±15°**
- If lost, use an appropriate method to determine position

P2-L3: Night Flying:

Objective

During this lesson, the student will plan and complete a night cross-country flight.

Flight Activity

Conduct a night cross-country flight from T67 to KTRL or another airport at least 50 NM from T67.

Duration

The flight is expected to last approximately 1.5 to 2.5 hours.

Flight Tasks

- Aeronautical decision-making (ADM)
- Normal takeoff
- Heading estimation and course corrections
- Fuel management
- Recognition of critical weather conditions
- Unfamiliar airport operations
- Lost procedures
- GPS navigation
- Normal landing

P2-L4: 10 Takeoffs/Landings at Night:

Objective

During this lesson, the student will plan and complete a night cross-country flight.

Flight Activity

Conduct a night cross-country flight from T67 to KTRL or another airport that is at least 50 NM from T67.

Duration

The flight is expected to last approximately 1.5 to 2.5 hours.

Flight Tasks

- Aeronautical decision-making (ADM)
- Normal takeoff
- Heading estimation and course corrections
- Fuel management
- Recognition of critical weather conditions
- Unfamiliar airport operations
- Lost procedures
- GPS navigation
- Normal landing
- 10 takeoffs and landings

P2-L5: Flying by Instruments:

Objective

During this lesson, the student will be introduced to instrument flying using a view-limiting device.

Flight Activity

Practice basic instrument flying using a view-limiting device.

Duration

The flight is expected to last approximately 1.5 to 2.5 hours.

Flight Tasks

- Maintain straight-and-level flight using proper instrument cross-check and coordinated control inputs
- Maintain **altitude ±200 feet, heading ±20°, and airspeed ±10 knots**
- Perform **constant airspeed climbs and descents** to assigned altitudes in straight flight and turns
- Level off at assigned altitudes while maintaining **altitude ±200 feet, heading ±20°, and airspeed ±10 knots**
- Perform **turns to assigned headings**, maintaining altitude ±200 feet and rolling out **±10° of the assigned heading**
- Recognize and recover from **unusual attitudes** using smooth, coordinated control inputs
- Maintain aircraft control while performing **radio communications and navigation tasks**
- Comply with **ATC instructions**

Phase 3: Solo Cross Country

Phase overview:

During this phase, the student will focus on building experience and confidence through solo cross-country flights. These flights allow the student to apply previously learned navigation skills, including pilotage, dead reckoning, and the use of navigational aids, while operating independently.

The student will be responsible for planning each flight, including route selection, weather evaluation, weight and balance calculations, fuel planning, and aircraft performance considerations. Each flight plan will be reviewed with the instructor prior to departure to ensure safe and proper decision-making.

This phase also fulfills important regulatory requirements outlined in **14 CFR §61.109**, including solo cross-country experience and the long solo cross-country flight. By the end of this phase, the student should demonstrate confidence in planning and conducting safe solo cross-country flights while maintaining sound aeronautical decision-making and risk management.

P3-L1: XC Solo 1:

Objective

During this lesson, the student will complete a solo cross-country flight to an airport selected by the instructor.

Flight Activity

The student will prepare the flight plan and review it with the instructor prior to departure. The flight will then be conducted solo.

Duration

Plan for this flight to last approximately 1.5 to 3 hours.

Flight Tasks

- VOR navigation
- GPS navigation
- Dead reckoning
- Pilotage
- Aeronautical decision-making (ADM)
- Radio communications
- Taxi and before-takeoff checks
- Runway incursion avoidance
- Normal takeoff and climb
- Normal approach and landing
- Flight planning and weather briefing

P3-L2: XC Solo 2:

Objective

During this lesson, the student will embark on a solo cross-country flight to an airport of the instructor's choosing.

Flight Activity

The flight plan should be completed by the student and discussed with the instructor prior to departure. The flight will then be conducted solo.

Duration

Plan for this flight to last approximately 1.5 to 3 hours.

Flight Tasks

Same as the previous lesson.

P3-L3: XC 150 NM Solo:

Objective

During this lesson, the student will complete a solo cross-country flight consisting of three legs with a total distance of at least 150 NM, including one segment with a straight-line distance of more than 50 NM and full-stop landings at each destination.

Flight Activity

The student will plan and conduct a solo cross-country flight consisting of three legs totaling at least 150 NM, with one leg greater than 50 NM straight-line distance and full-stop landings at each airport.

Duration

Plan for this flight to last approximately 2.5 to 4 hours.

Flight Tasks

Same as the previous lesson.

Disclaimer

The order of lessons in this syllabus may be adjusted at the instructor's discretion based on student progress, weather conditions, aircraft availability, and other training considerations. One of the primary advantages of **Part 61 training** is the flexibility to tailor instruction to each student's needs.

This syllabus outlines **flight training only**. Additional instruction will include ground training, briefings, and other learning activities that are essential to becoming a safe and proficient pilot. As a result, the overall training experience will include more content than what is listed in this document.
