

# *CFI Bootcamp*

*Flight Instructor Training*



Teaching Skills

# Giving Preflight Briefings With a Syllabus

Lesson Plans for the Checkride  
Don't Work

# Giving Preflight Briefings with a Syllabus

The Problem

How to Use a Syllabus is Not Being Taught

# Giving Preflight Briefings with a Syllabus

## The Problem

Lesson Plans for a Checkride Don't Fit Well In a Syllabus

## Giving Preflight Briefings with a Syllabus

### The Checkride Lesson Plan

Complete full lesson

Assumes you are giving the ground as well as flight

Usually takes between 15 - 30 minutes per maneuver

# Giving Preflight Briefings with a Syllabus

## The Checkride Lesson Plan

Steep Turns

CFI LESSON PLANS

CFI Bootcamp  
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### STEEP TURNS

**Objective**

To perform a 360-degree level turn using between 45 - 50 degrees bank while maintaining altitude, airspeed, and coordination.

**Motivation**

Develops smoothness, coordination, orientation, division of attention, and control techniques to control the increase in load factor and stall speed. This maneuver can be used to avoid an encounter with clouds, terrain, or other aircraft.

**Presentation: 20 Minutes**

The applicant demonstrates instructional knowledge by describing and explaining:

1. Aerodynamics review of turning flight including increases in load factor and stall speed and accelerated stalls.
2. Pilot sensations and control forces.
3. How load factor increases with bank angle - Note how after bank angles of greater than 45 degrees load factor increases substantially with even small increases in bank angle.
4. Determining maneuvering speed, including changes in weight.
5. Identification of reference points and heading.
6. Adverse yaw and how to use rudder to stop it.
7. Use of horizon to determine bank and the different sight pictures in left / right turns.
8. Maintaining altitude with elevator and airspeed with power.
9. Use of trim in a turn.
10. Overbanking tendency.
11. Left turning tendencies and the use of rudder in the turn.
12. Anticipating rolling out. (1/2 bank angle in degrees)
13. Control inputs required to maintain altitude and airspeed when level.

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279

## Giving Preflight Briefings with a Syllabus

A Lesson Plan Does Not:

Show you how to teach something

Become a Syllabus

In current form become a Preflight Briefing

## Giving Preflight Briefings with a Syllabus

What you are Looking for - We hear this all the time

Tell me how to teach a lesson on “Steep Turns”  
The Lesson plan should show me that - Wrong!

## Giving Preflight Briefings with a Syllabus

There is no one way to deliver a lesson

Teaching is understanding the learner(s) and then delivering a lesson based upon that

## Giving Preflight Briefings with a Syllabus

### Example - "Steep Turns"

If giving ground then the whole lesson

Student taking a course/in one - Preflight briefing - 5 min

Flight review - Interactive - What do you need to know

Evaluation - State the maneuver and completion standards

Giving Preflight Briefings with a Syllabus

Lesson Plans are an Outline - Nothing More

You must understand what you are teaching

## Giving Preflight Briefings with a Syllabus

Preflight Briefings are the How and What for this flight

Tells the pilot how to do something

Has a completion standard

Takes around 5 to 10 minutes per maneuver

# Giving Preflight Briefings with a Syllabus

## Preflight Briefings are the How and What for this flight

### Steep Turns

1. Clear the airspace and identify emergency landing areas.
2. Adjust the throttle to 2100 RPM - 90 KIAS.
3. Altitude no lower than 1500 feet AGL.
4. Identify a reference point in front of the aircraft and note the heading.
5. Roll into a 45 - 50 degree bank turn - Stop adverse yaw with rudder.
6. Maintain bank, altitude, and airspeed.
7. Elevator maintains altitude, throttle maintains airspeed, aileron - angle of bank.
8. Remain coordinated.
9. Begin the roll out 25 degrees before the 360 degree point - Stop adverse yaw.
10. Level the wings on the entry heading.
11. Reduce elevator to maintain altitude and decrease throttle for airspeed.
12. Roll into a 45 - 50 - degree bank turn in the opposite direction.
13. Repeat maneuver in the opposite direction.

Diagram illustrating forces in a steep turn. The top diagram shows Lift (up) and Weight (down) in level flight. The bottom diagram shows Total Lift (up), Weight (down), and Horizontal Component (left) in a banked turn. A graph shows Load Factor vs Angle of Bank, with a curve rising above 2g at 60 degrees.

### Slow Flight

1. Clear the area.
2. Reduce the throttle to 1500 RPM.
3. Maintain altitude with elevator back-pressure as the airspeed slows.
4. Lower the flaps to full in stages. 10 degrees below 110, the rest below  $V_{fe}$ .
5. Anticipate elevator pressure changes.
6. Slow to 50 KIAS, and apply throttle as necessary to maintain altitude.
7. Use elevator to maintain airspeed.
8. Apply rudder to keep the to maintain heading. Keep the wings level with ailerons.
9. Perform a level 90 degree turn to the left. Additional throttle will be required to maintain altitude.
10. Perform a level 90 degree turn to the right.
11. Return to straight and level flight at cruise speed by applying full power first.
12. As the airspeed increases, retract the flaps in stages while maintaining altitude.
13. When the airspeed is 90 KIAS reduce throttle to 2100 RPM and trim.

Diagram illustrating Drag vs Airspeed. The graph shows Induced Drag (decreasing) and Parasite Drag (increasing). Below is the Lift Equation:  $Lift = \frac{\rho V^2 S C_L}{2}$ , with a note that Angle of Attack is a variable we can control. Below that is the simplified equation  $Lift = V^2 \cdot AOA$ . A list of Left Turning Tendencies includes Torque, P-Factor, Slipstream, and Gyroscopic Precession (depends).

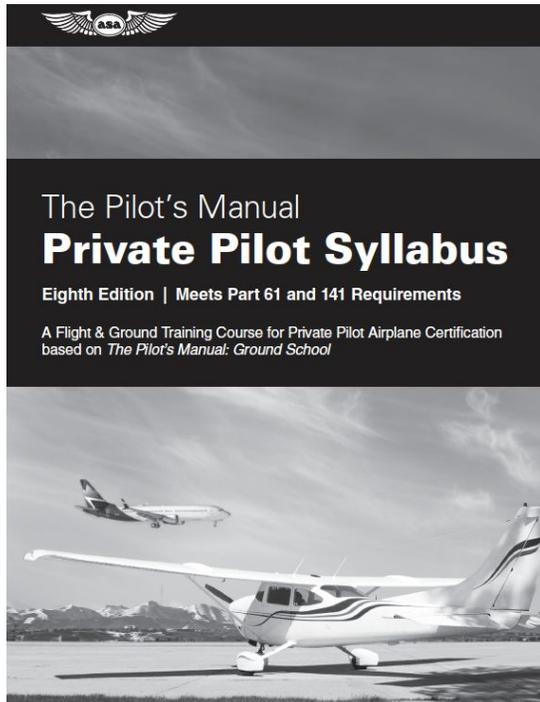
## Giving Preflight Briefings with a Syllabus

What is a Syllabus?

A Roadmap to a Course of Training for each Class/Lesson

# Giving Preflight Briefings with a Syllabus

## What is a Syllabus?



### Stage 1 / Module 1

#### Ground Training

**Objective:**  
For the student to be introduced to the Private Pilot Certification program, and learn the flight school requirements, procedures, regulations, and grading criteria. Students shall also become familiar with stability, control, and the forces acting on an airplane.

- Content:**
- Review of course and objectives
  - School requirements, procedures, regulations
  - Grading criteria, expectations of student
  - Review objective of Stage 1

#### The forces acting on an airplane

- Weight
- Lift
  - streamline/turbulent flow
  - Bernoulli's Principle
  - dynamic/static pressure
    - airspeed
    - airfoil shape
  - aerodynamic force
  - pressure distribution and CP movement

- Drag
  - total drag
    - parasite drag
    - skin-friction drag
    - form drag
    - interference drag
    - induced drag
    - angle-of-attack
    - wing design
    - lift/drag ratio
    - wing flaps
    - leading-edge devices
    - spoilers

- Thrust
  - propeller motion
  - forces on a propeller blade
  - propeller efficiency
  - controllable-pitch propellers
  - takeoff effects of propellers
  - propeller torque effect
  - gyroscopic effect
  - P-factor

**Completion Standards:**  
This lesson is complete when the student has successfully completed all review questions following the assigned reading.

**Assignment:**  
Ground School, Chapters 1 and 2

- Stability and control
  - Stability
    - static/dynamic stability
    - stability vs. maneuverability
    - airplane equilibrium
    - pitching moments
    - longitudinal/directional/lateral stability
  - Control
    - elevator
    - ailerons
    - rudder
    - control effectiveness

#### Flight Training

**Objective:**  
For the student to be introduced to and become familiarized with preflight inspections, checklist operations, starting and taxi procedures, and the function and use of the airplane controls.

- Content:**
- Preflight inspection and aircraft documents (certificates and documents, aircraft logbooks, airplane servicing)
  - Starting procedures
  - Taxi
  - Control effects on ground and in flight
    - Checklist introduction and use
  - Normal takeoff
  - Four Basics: straight and level, climbs, descents, turns
  - Collision avoidance procedures
  - Normal approach and landing
  - Postflight procedures

**Completion Standards:**  
This lesson is complete when the student can conduct the preflight with minimum assistance, properly use all checklists, start the airplane, taxi, and operate the controls.

**Recommended Reading:**  
Flight School

**Minimum 141 Requirements**

- Dual 1.0 hour flight
- 2.0 hours ground instruction

#### Stage 1 / Module 1

Date of Completion: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Time Flown: \_\_\_\_\_

## Giving Preflight Briefings with a Syllabus

What is a Syllabus?

Tells the teacher what must be covered and in what time  
In Aviation it will specify the minimum time  
In a class there will only be so much time available

## Giving Preflight Briefings with a Syllabus

Most 141 Syllabi aren't usable "As is"

Lesson times understated - ASA 1st lesson takes 6-7 hours  
The Syllabus Says 3 hours

## Giving Preflight Briefings with a Syllabus

What to do about it?

Assign a course that aligns with the syllabus ground

Ensure the student is always ahead of the flight lesson

Chop up the ground/flight lesson when the lesson is too big

## Giving Preflight Briefings with a Syllabus

### Attention and Processing

Most people can only absorb 20 minutes of new things  
People need time to process/try/fail - We learn like this

## Giving Preflight Briefings with a Syllabus

Assigning a Course is Very Important - Part 61 schools

Students are constrained by instructor lesson allocations  
There is time to try other methods to understand/use  
Well structured and do a better job of g"Global" info  
You provide the tailoring to the learner

## Giving Preflight Briefings with a Syllabus

Use the Syllabus as a Checklist - Part 61

Look at what needs to be done and work on that list  
When a stage is nearing completion see what remains

## Giving Preflight Briefings with a Syllabus

Use the Syllabus as a Checklist - Part 61

Learners can see their progress and next steps

## Giving Preflight Briefings with a Syllabus

The FOI?

A Basis on How to be a Teacher

Motivation is key one

Peoples backgrounds are key two

How people like to learn is key three

How you blend these as a teacher is key four

From Us to You!

# PreFlight Briefings

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Pre-Flight Briefings  
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# From Us to You!

### Steep Turns

1. Clear the airspace and identify emergency landing areas.
2. Adjust the throttle to 2100 RPM - 90 KIAS.
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10. Level the wings on the entry heading.
11. Reduce elevator to maintain altitude and decrease throttle for air-speed.
12. Roll into a 45 - 50 - degree bank turn in the opposite direction.
13. Repeat maneuver in the opposite direction.

Load Factor

2g

60

Angle of Bank

[Teach Brief-Fly!](#)

### Slow Flight

1. Clear the area.
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3. Maintain altitude with elevator back-pressure as the airspeed slows.
4. Lower the flaps to full in stages. 10 degrees below 110, the rest below  $V_{fe}$ .
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11. Return to straight and level flight at cruise speed by applying full power first.
12. As the airspeed increases, retract the flaps in stages while maintaining altitude.
13. When the airspeed is 90 KIAS reduce throttle to 2100 RPM and trim.

Drag

Airspeed

Induced Drag

Parasite Drag

Lift Equation

$$\text{Lift} = \frac{\rho V^2 S C_L}{2}$$

Angle of Attack

Variables we can control

$$\text{Lift} = V^2 \times \text{AOA}$$

#### Left Turning Tendencies

1. Torque
2. P-Factor
3. Slipstream
4. Gyroscopic Precession (depends)

# Pathway - A Syllabus with Content Ready to Go



## Private Pilot Pathway Syllabus

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Program

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On Campus for 2 to 2.5 weeks

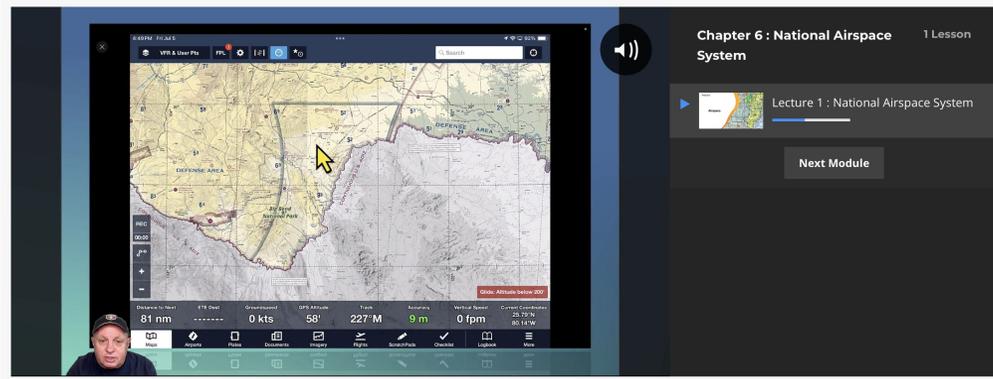
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From us to you...

Free Preview of Our Online Course

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The screenshot shows a video player on the left displaying a flight instructor's face and a map of the National Airspace System. The map shows various airspace boundaries and a yellow cursor pointing to a specific area. The video player has a progress bar and a volume icon. To the right of the video player, the course title 'Chapter 6 : National Airspace System' is displayed, along with '1 Lesson' and 'Lecture 1 : National Airspace System'. Below the video player, there is a 'Mark As Complete' button. The main title of the lecture is 'Lecture 1 : National Airspace System', followed by 'Chapter 6 : National Airspace System'. A description below reads: 'This updated lecture provides an in-depth exploration of the various types of airspace within the National Airspace System. We'll cover controlled and uncontrolled airspace, special use airspace, and airspace classes, focusing on the rules and regulations that pilots must follow to ensure safe operations in each type.' To the right of the description, there is a 'Downloads' section with two items: 'National Airspace System' and 'Chapter 12: Workbook Questions'.

Chapter 6 : National Airspace System 1 Lesson

Lecture 1 : National Airspace System

Next Module

Mark As Complete

### Lecture 1 : National Airspace System

Chapter 6 : National Airspace System

This updated lecture provides an in-depth exploration of the various types of airspace within the National Airspace System. We'll cover controlled and uncontrolled airspace, special use airspace, and airspace classes, focusing on the rules and regulations that pilots must follow to ensure safe operations in each type.

**Downloads**

- National Airspace System
- Chapter 12: Workbook Questions

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### Power Hour Lesson Outlines

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How to Make Being a Flight Instructor a Career

March 8, 2025 at 12:00:00 PM



A look into the products CFI Bootcamp has to offer

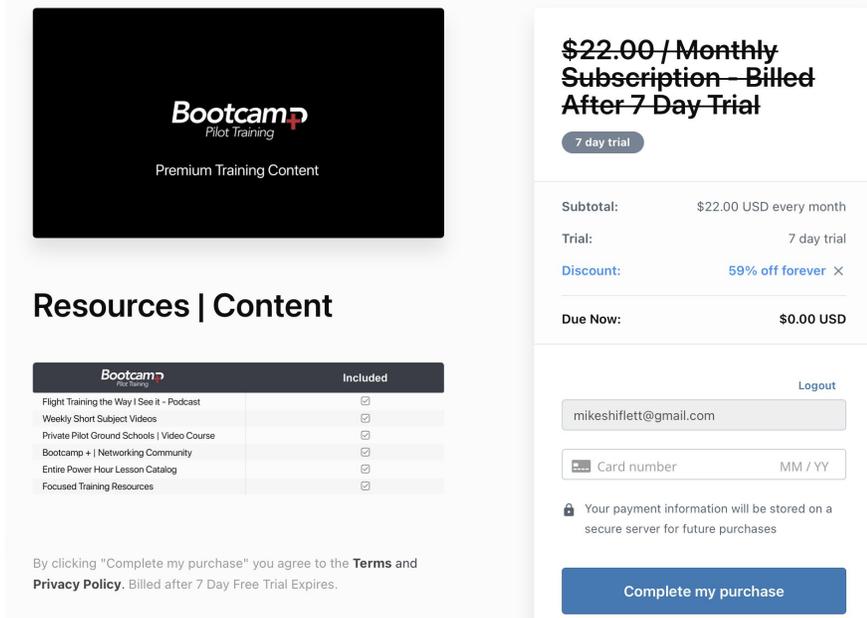
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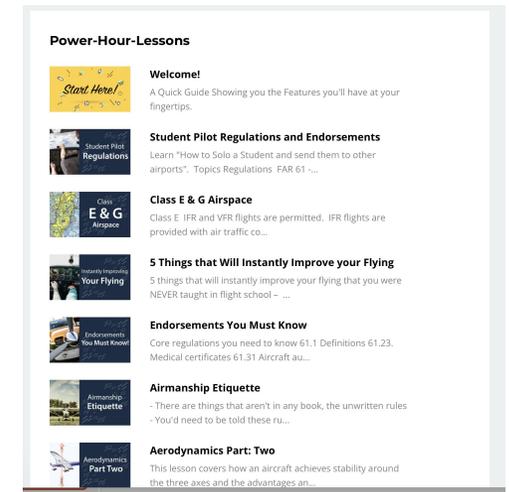
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- 5 Things that Will Instantly Improve your Flying**  
5 things that will instantly improve your flying that you were NEVER taught in flight school - ...
- Endorsements You Must Know**  
Core regulations you need to know 61.1 Definitions 61.23. Medical certificates 61.31 Aircraft au...
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