

# Lesson 08. Teaching a technical subject: the shape, and principles of flight

Ground 1.5 hr | Dual 0 hr | ACS AI.II.D

| CFI CANDIDATE |                | DATE        |             | SUPERVISING INSTRUCTOR |  |
|---------------|----------------|-------------|-------------|------------------------|--|
| AIRCRAFT      | N41459 Warrior | Ground only | FLIGHT TIME | GROUND TIME            |  |

## OBJECTIVE

The candidate teaches a technical subject to a Simulated Student rather than reciting it, and learns the shape every remaining phase 2 lesson uses. The subject is principles of flight, chosen because the candidate already knows it cold as a pilot, which isolates the teaching problem from the knowledge problem.

This is the phase 2 tracer bullet. It is the first time the technical subject shape meets real content.

## LESSON STEPS: THE ELEMENTS, IN TEACHING ORDER

Check each element as it is taught. Leave anything not done blank. Sign once at the bottom.

1. How phase 2 works: every lesson ends with you teaching, and every lesson is recorded

standards/TECHNICAL-SUBJECT-LESSON-SHAPE.md

2. Organizing a technical subject for somebody who does not know it

FAA-H-8083-9B ch 5, 7

3. Airfoil design characteristics

AI.II.D.K1 FAA-H-8083-25C

4. Forces acting on an airplane

AI.II.D.K4

5. Stability, maneuverability, and controllability

AI.II.D.K2

6. Turning tendency: torque, p-factor, spiraling slipstream, gyroscopic precession

AI.II.D.K3

7. Load factors in airplane design

AI.II.D.K5

8. Wingtip vortices and the precautions that follow

AI.II.D.K6

9. Candidate teaches an assigned element to the Simulated Student

US-4.1

## COMPLETION STANDARDS

1. The candidate teaches an assigned element of principles of flight to the Simulated Student for about ten minutes, without notes in front of them.
2. The candidate answers "why" twice on the same point, going one level deeper each time rather than restating.
3. The candidate names one simplification they made and says what it costs and when it would need correcting.
4. The candidate directs the Simulated Student to a live publication at least once, rather than asserting a fact from memory.
5. The candidate prioritizes within element 6, teaching the turning tendency that matters most at the student's stage rather than all four equally.
6. The candidate delivers a self-critique before hearing the instructor's.

## DEBRIEF AND SIGN-OFF

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Critique: the error, its probable cause, and the correction. Candidate self-critique first.

Sign once for the whole lesson. Elements left unchecked above were not taught this session.

SUPERVISING INSTRUCTOR SIGNATURE / INITIALS

DATE