



Chapter 1 : Fundamentals of Instructing

Lecture 1 : Fundamentals of Instructing Part 1 of 5

This video Covers chapter one, human behavior, and the learning process up to the end of learning styles in chapter two of the aviation instructor's handbook.

Lecture 2 : Fundamentals of Instructing Part 2 of 5

This video covers chapter two, the learning process, from memory types to the end of the chapter. It also covers chapter three, effective communication from the aviation instructor's handbook.

Lecture 3 : Fundamentals of Instructing Part 3 of 5

This video covers chapter four, the teaching process, from the aviation instructor's handbook.

Lecture 4 : Fundamentals of Instructing Part 4 of 5

This video covers the end of chapter four, the learning process, and chapter 5, assessment, and chapter 6, planning instructional activity, from the aviation instructor's handbook.

Lecture 5 : Fundamentals of Instructing Part 5 of 5

The video covers, chapter seven, Instructor responsibilities and professionalism, and chapter eight, techniques of flight instruction from the aviation instructor's handbook.

Chapter 2 : Aircraft Systems

Lecture 1 : Powerplant

This video covers how a piston engine works along with the components that make up a horizontally opposed system.

Lecture 2 : Propellers

This video covers how a fixed pitch and variable pitch propeller work. The first part of the video covers fixed pitch propeller aerodynamics and the second part covers the variable pitch propeller aerodynamics.

Lecture 3 : Electrical System Part 1 of 2

This video covers electrical system theory and explains typical piston aircraft electrical system components.

Lecture 4 : Electrical System Part 2 of 2

This video covers more components of an aircraft electrical system including electrical system malfunctions.

Lecture 5 : Fuel, Oil and Engine Cooling

This video covers the fuel system, oil system and cooling system of typical training piston aircraft..

Lecture 6 : Landing Gear

This video covers both fixed gear and retractable landing gear systems used in most training aircraft.



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Chapter 3 : Aerodynamics

Lecture 1 : Airplane

This video covers the basic components of an airplane including the primary flight controls and surfaces, major areas of an airplane such as empanage, fuselage and so on and trim systems.

Lecture 2 : The Four Forces

This video covers the creation of lift and drag and the four forces acting on an airplane in flight.

Lecture 3 : Turning, Climbing and Descending

This video covers climbing, descending and turning flight aerodynamics including stalls and a discussion on load factor.

Lecture 4 : Stability

This video covers how an aircraft achieves stability around all three axes and why a training or transport airplane needs to have positive stability around all three axes.

Chapter 4 : Airspace

Lecture 1 : Airspace

This video covers airspace including class A, B, C, D, E and G.

Chapter 5 : Performance and Limitations

Lecture 1 : Performance Part 1 of 2

This video covers performance considerations in an airplane such as induced / parasite drag, best rate and best angle of climb and operating an airplane in the area of reverse command.

Lecture 2 : Performance Part 2 of 2

This video covers how to use performance charts contained in a typical pilot operating handbook for a Cessna 172.

Chapter 6 : Weight and Balance

Lecture 1 : Weight and Balance

This video covers the basic concept of aircraft weight and balance and how to calculate the weight and balance of an aircraft using a typical pilot operating handbook.

Chapter 7 : Aeromedical Factors

Lecture 1 : Physiology

This video covers aviation physiology, or aeromedical factors.

Chapter 8 : Weather Reports and Forecast

Lecture 1 : Textual Weather

This video covers the text based weather products available to pilots. NOTE: The Area Forecast for the 48 states has been discontinued and is no longer available in text form. It is available as a new tool called the GFA TOOL which is located at aviationweather.gov under Tools.

Lecture 2 : Graphical Weather Products

The video covers the graphical weather products available to pilots such as surface analysis charts, prognostic charts etc.

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Chapter 9 : Cross Country Flight Planning

Lecture 1 : Using a Flight Computer

This video shows how to use the manual E6B flight computer.

Lecture 2 : Pilotage and Dead reckoning

This video covers the basics of pilotage and dead reckoning and includes a segment on using the one in sixty rule with the E6B flight computer to determine corrections to heading in actual wind conditions.

Lecture 3 : Flight Planning

This video covers the flight planning process and includes the steps necessary to create a navigation log from all of the individual components. You will see an actual example of the process using a paper chart, plotter and E6B.

Chapter 10 : FAR 61 - Certification Pilots and Instructors

Lecture 1 : FAR 61 - General Subparts A and B part 1 of 3

This video covers the basic parts of FAR 61 Subpart A.

Lecture 2 : FAR 61 - General Subpart A and B Part 2 of 3

This video covers FAR 61 Subpart A through pilot logbooks (FAR 61.51).

Lecture 3 : FAR 61 - General Subpart A and B Part 3 of 3

This video covers FAR 61 from 61.53 to 61.75 and ends the discussion on FAR 61 Subparts A and B.

Lecture 4 : FAR 61 - Student Pilots

This video covers FAR 61 for Student Pilots. It includes the eligibility requirements to be a student pilot, how to get a student pilot certificate, what is required to solo a student, Cross country flight training requirements and certain solo flight and certain solo cross country flights.

NOTE: Aviation Medical Examiners no longer can issue Student Pilot Certificates. The process to get a student pilot certificate is described in AC 61-65G. It requires a student pilot to complete an IACRA or paper application which YOU, the flight instructor must sign. You MUST determine the english proficiency of the student prior to signing it. The student pilot will get a temporary airman certificate if they use IACRA and a plastic green card will be mailed to them. These student pilot certificates DO NOT EXPIRE.

In the video, all references to signing a student pilot certificate should be ignored and instead a logbook endorsement is used. See AC 61-65G (or later version if there is one) for complete information.

Lecture 5 : FAR 61 - Private Pilots

This video covers the regulations relating to the requirements to become a private pilot including eligibility, aeronautical knowledge, flight proficiency, aeronautical experience requirements and the privileges and limitations of holding the certificate.

Lecture 6 : FAR 61 - Commercial Pilots

This video covers the regulations relating to the requirements to become a Commercial pilot including eligibility, aeronautical knowledge, flight proficiency, aeronautical experience requirements and the privileges and limitations of holding the certificate.

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Chapter 11 : NTSB 830

Lecture 1 : NTSB 830

This video covers the accident reporting requirements of the National Transportation and Security Board for NTSB Part 830. It includes the differences between an accident and an incident and when a report is required and what must be included.

Chapter 12 : Aeronautical Decision Making

Lecture 1 : Introduction to Human Factors

This video covers the basics of Aeronautical Decision Making, also called Human Factors

Chapter 13 : Using the Practical Test Standards

Lecture 1 : Using the PTS Part 1 of 3 - Introduction Section

This video covers using the Practical Test Standards and focuses on the Introduction Section.

Lecture 2 : Using the PTS Part 2 of 3 - Introduction Section Continued

This video covers the Practical Test Standards and is the continuation of the previous video. It focuses on the Introduction section and also includes how to renew or reinstate a flight instructor certificate.

Lecture 3 : Using the PTS Part 3 of 3 - Areas of Ops Task and Elements

This video covers the Practical Test Standards and focuses on what is meant by an Area of Operation, Tasks and Elements.

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Introduction

Introduction Steps

Here is a super fast video to get you going in the course quickly. Make sure you watch it and have fun in the course.

Chapter 1 : Fundamentals of Instructing

In this section we will explore Human Behavior and the Learning Process from the Aviation Instructor's Handbook.

Lecture 1 : Human Behavior and the Learning Process Part 1

Human behavior is the study of how humans react to stimulus. This section deals with human needs, motivation, perceptions and insights, defense mechanisms and how to classify normal anxiety and abnormal behavior. Also Behaviorism and Cognitive theory are covered as part of the Learning Process.

Lecture 2 : The Learning Process Part 2

This is part two of the learning process. This part emphasizes the characteristics of learning, the laws of learning, the levels and domains of learning and memory.

Lecture 3 : Effective Communication

Effective communication is discussed as theory and with practical examples. Topics include barriers to effective communication and active listening. You should have a good understanding of how to properly structure questions and conversation when you are done with the lesson.

Lecture 4 : The Teaching Process

This video covers using the Practical Test Standards and focuses on the Introduction Section.

Lecture 5 : Assessment

This lesson examines the instructor's role in assessing levels of learning, describes methods of assessment, and discusses how to construct and conduct effective assessments. The techniques and methods described in this lesson apply to the aviation instructor in the classroom, and the flight instructor in the aircraft or in the briefing area.

Lecture 6 : Instructional Activity CFI Responsibilities and Techniques

This lesson covers planning instructional activity, the responsibilities of flight instructors and the techniques of flight instruction.

Fundamentals of Instructing Assessment

Assessment

Complete the assessment in this section.

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Chapter 2 : Teaching Aerodynamics

This chapter discusses aerodynamics — How design, weight, load factor, gravity affect an aircraft, and how lift/drag are generated, aircraft stability and the forces acting on an airplane in flight.

Lecture 1 : Lift and Drag

How an airplane generates lift through newtons third law and bernoulli's principle. Also discussed is how parasite and induced drag are created and the effects of drag as speed is increased and decreased.

Lecture 2 : Stability forces in climb descent and turn

This lesson covers how an aircraft achieves stability around the three axes and the advantages and disadvantages of each type of stability. Also the forces in a climb, descent, and turn are discussed.

Lecture 3 : Effective Communication

This lesson covers how load factor is created during maneuvering flight, why it can be dangerous and what design maneuvering speed is and how it can be used to increase flight safety during maneuvering flight.

Aerodynamics Assessment

Assessment

Complete the assessment in this section.

Chapter 3 : ADM and Risk Management

This chapter covers how to teach aeronautical decision making and risk management.

Lecture 1 : ADM and Risk Management

This lesson distills the risk management handbook into a single lesson where you are taught why risk management is important in general aviation flying and how to apply practical strategies both before and during flight in practical terms.

Chapter 4 : Aircraft systems

This chapter discusses the systems on the Piper Arrow II.

Lecture 1 : Electrical System Part 1

This lesson covers the Arrow's electrical system. Before the system is covered there is a lecture on basic electricity from a practical standpoint so that you can use this fundamental knowledge to fully understand how to read the electrical system diagram and what and how each component works.

Lecture 2 : Electrical Part 2 Landing Gear Flight Ctrls and Braking

In this lesson you will finish the lecture on the electrical system and continue on with the landing gear system, flight control system and braking system.

Lecture 3 : Constant Speed Propeller

This lesson will show you how the constant speed propeller system works including the inner workings of the governor and propeller hub.

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Aircraft Systems Assessment

Assessment

Complete the assessment in this section.

Chapter 5 : FAR 61 Subparts A,B,C,D,E and F and Hidden FARs

This chapter covers the Federal Aviation Regulation Part 61 from regulations common to all ratings then Student, Private, Recreational and Commercial Pilots. Scenarios are also covered.



Lecture 1 : FAR61 Student Pilots

FARs that need to be understood to be able to solo a student, what the limitations are and what the process is.

Lecture 2 : FAR61 Student Pilots XC Requirements

Regulations that are specific to cross country training, solos and certain types of solo flights.

Lecture 3 : FAR61 Private Rec Commercial Pilots : Part 1

Regulations that address the eligibility, training and experience requirements for Private, Recreational and Commercial Pilots.

Lecture 4 : FAR61 Private Rec Commercial Pilots : Part 2

Regulations that address the eligibility, training and experience requirements for Private, Recreational and Commercial Pilots - Continued.

Lecture 5 : FAR61 Scenarios

Classroom scenarios for soloing students and sending them on cross country flights.

Lecture 6 : FAR61 Commercial Scenarios

Classroom scenarios centered around Commercial pilots and time that can be counted from various other category and class ratings.

Lecture 7 : ACS and FAR61 SubParts A,B,C the Hidden FAR's

Using the ACS, Airman Certification Standards and FAR Part 61 Subparts A (General), B (Aircraft Ratings and Pilot Authorizations) and the Hidden FARs.

ACS Assessment

Assessment

Complete the assessment in this section.

FAR Part 61 Assessment

Assessment

Complete the assessment in this section.



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Chapter 2 : Teaching Aerodynamics

This chapter details what you need to know about Airspace.

Lecture 1 : Airspace with Emphasis on Class E and G

This lesson covers the airspace, cloud clearances, entry and equipment requirements and more. Also covered is how to teach airspace and the differences between class E and G and how to teach those differences with practical examples.

Airspace Assessment

Assessment

Complete the assessment in this section.

Chapter 7 : Lesson Planning

This chapter teaches you how to design and use a lesson plan.

Lecture 1 : how to create a lesson plan

This lesson teaches you how to prepare a lesson plan from scratch. It includes everything you need to know to assemble, design and produce a lesson plan for an academics or maneuvers lesson in a standardized format.

Chapter 8 : Radio Navigation

This chapter teaches radio navigation and cross country flight planning.

Lecture 1 : Radio Navigation and Ground based navigation

This lesson covers how to teach VOR navigation and the beginnings of cross country flight planning.

Lecture 2 : Flight planning

This lesson covers how to correct a course using the one in sixty rule, and track error and closing angle methods

Navigation Assessment

Assessment

Complete the assessment in this section.

Chapter 9 : Weight and Balance and High Altitude Flight

This chapter covers basic weight and balance theory and high altitude flight (Oxygen and pressurization systems)

Lecture 1 : Weight and Balance and High Altitude Flight

This lesson covers the basics of weight and balance, types of oxygen systems and the principles of aircraft pressurization systems.

Weight and Balance and High Altitude Flight Assessment

Assessment

Complete the assessment in this section.

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Practical Course Outline



Chapter 10 : Teaching The Flight Maneuvers

This chapter focuses on how to teach the pre-maneuver briefings for many private and commercial pilot flight maneuvers..

Lecture 1 : The Four Fundamentals

This lesson covers how to teach straight and level flight, climbs, descents and medium bank turns..

Lecture 2 : Teaching Ground Reference Maneuvers Private and Commercial

This lesson covers how to teach rectangular courses, turns around a point, s-turns across a road and eights on pylons.

Lecture 3 : Teaching Slow Flight Stalls and Spins

This lesson covers how to teach flow flight, power off and on stalls and spins.

Lecture 4 : Teaching Normal Landings

This lesson covers how to teach normal landings.

Lecture 5 : Teaching Normal Short Soft and Crosswind Takeoffs

This lesson covers how to teach normal, short, soft and crosswind takeoffs.

Lecture 6 : Teaching Emergencies

This lesson covers how to teach emergencies.

Lecture 7 : Teaching Chandelles, Lazy 8s and Power off 180 Acc Landing

This lesson covers how to teach chandelles, lazy eights and the power off 180 accuracy landing.

Teaching Flight Maneuvers Assessments

Assessment

Complete all assessment in this section.

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Practical Course Outline

Chapter 11 : Runway Incursion Avoidance

This chapter will cover how to avoid runway incursions.

Lecture 1 : Runway Incursion Avoidance

Runway incursions still are a problem with general aviation pilots. This lesson focuses on what should and can be done from preflight planning, runway signs and markings, ATC techniques, student pilot operations and more.

Runway Incursion Assessment

Assessment

Complete the assessment in this section.

Aeromedical Factors Assessment

Assessment

Complete the assessment in this section.

Flight Instructor End of Course Assessment

Assessment

Complete the assessment in this section.



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