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Abbreviations:

IFH – Instrument Flying Handbook
A/FD – Airport/Facility Directory
CPT – Cockpit Procedures Trainer
FAR – Federal Aviation Regulations
PCATD – PC-based Aviation Training Device
PTS – Practical Test Standards
POH – Pilot's Operating Handbook

Unit 1. Ground. Human Factors, Aviation Physiology

References:
Jeppesen Ch. 1B,
IFH Ch. 1
AIM: Ch. 8

	Date
Aeronautical Decision Making	
Crew Resource Management	
The Decision Making Process (DECIDE model)	
Pilot in Command Responsibility	
Hazardous Attitudes (I'M AIR)	
Communication	
Resource Use	
Workload Management	
Planning and Preparation	
Cockpit Organization	
Prioritizing (Aviate, Navigate, Communicate)	
Work Overload	
Situational Awareness	
Aviation Physiology	
Disorientation	
Spatial Disorientation	
Vestibular Disorientation	
Sensory System for Orientation	
Eyes	
Ears	
Semicircular Canals	
Otolith Organ	
Nerves, Kinesthetic Sense	
Illusions	
Vestibular Illusions	
The Leans	
Corriolis Illusion	
Graveyard Spiral	
Somatogravic Illusion	
Inversion Illusion	
Elevator Illusion	
Visual Illusions	
False Horizon	
Autokinesis	
Coping with Spatial Disorientation	
Optical Illusions	
Runway Width Illusion	
Runway and Terrain Slopes Illusion	

continued

Unit 1. (continued)

	Date
Featureless Terrain Illusion (Black Hole Approach)	
Water Refraction	
Haze	
Prevention of Landing Errors	
Physiological and Psychological Factors (I'M SAFE)	
Motion Sickness	
Hypoxia and its prevention	
Symptoms	
Hypoxic, Hypemic, Stagnant and Histotoxic	
Hyperventilation	
Decompression Sickness	
Fitness for Flight	

Unit 2. Ground. Flight Instrument Systems

References:
Jeppesen Ch.2A
IFH Ch. 3
FAR 91.205 (d), 91.213

Quiz # 1 Grade:

	Date
FAA Instrument Requirements (GRAB CARD)	
Inoperative Instruments and Equipment Requirements	
Pitot-Static Instruments	
Effect of Atmospheric Conditions	
Standard Atmosphere	
Pitot-Static System	
Altimeter	
Operating Principles	
Altimeter Setting, Instrument Check	
Interpretation	
Types of Altitude	
Limitations, No Correction for Non-Standard Temperature	
Calculating Pressure and Density Altitude (Practice)	
Instrument Check	
Vertical Speed Indicator	
Operating Principles	
Interpretation (Trend and Rate)	
Limitations	
Instrument Check	
Airspeed Indicator	
Operating Principles	
Color Arcs, V-Speeds	
Types of Airspeed (ICET PCD)	
Errors	
Position Error	
Density Error	
Compressibility Error	
Instrument Check	
Pitot-Static System Blockage	
Gyroscopic Instruments	
Rigidity in Space	
Precession	
Sources of Power	

continued

Unit 2. (continued)

	Date
Attitude Indicator	
Interpretation (Bank Angle and Pitch)	
Adjustment When Changing Configuration and/Or Power Setting	
Limitations and Errors	
Instrument Check	
Heading Indicator	
Limitations and Error	
Instrument Check	
Turn Indicators	
Turn-And-Slip Indicator vs. Turn Coordinator	
Interpretation	
Rate of Roll	
Rate of Turn	
Standard Rate Turn	
Coordination, Slip, Skid	
Limitations	
Instrument Check	
Magnetic Compass	
Barrel vs. Vertical Card Compass	
Interpretation	
Compass Errors	
Oscillation	
Variation	
Deviation	
Dip Errors	
Acceleration Error	
Turning Errors, Roll-Out Rules	
Instrument Check	
Flux Gate Compass	
Remote Indicating Compass	
Horizontal Situation Indicator	
Remote Magnetic Indicator	

Unit 3. Ground. Attitude Instrument Flying

References:
Jeppesen Ch.2B
IFH: Ch. 4, 5

Quiz # 2 Grade:

	Date
Attitude Instrument Flying, the Definition	
Fundamental Skills	
Instrument Cross-Check	
Scanning Techniques	
Common Cross-Check Errors	
Instrument Interpretation	
Aircraft Control	
Attitude Instrument Flying Concepts	
Primary/Secondary Concept	
Control/Performance Method	
Basic Flight Maneuvers	
Straight-and-Level Flight	
Standard Rate Turns	
Steep Turns	
Constant Airspeed Climbs	
Constant Rate Climbs	
Constant Airspeed Descends	
Constant Rate Descends	
Level-off from Climbs and Descends	
Climbing and Descending Turns	
Stalls	
Instrument Takeoff	
Instrument Failures	
Identifying an Instrument Failure	
Attitude Indicator Failure	
Partial Instrument Flying	
Basic Flight Maneuvers	
Magnetic Compass Turns	
Timed Turns	
Pitot-Static Instrument Failures	
Unusual Attitude Recovery	
Nose Low and Nose High Attitudes	
Recoveries using Full and Partial Panel	

Unit 4. Flight 1. Simulator. Basic Flight Maneuvers

Complete ☐

References:
Jeppesen Ch.2B
IFH: Ch. 4, 5

Objective: Familiarize the student with the Simulator or PCATD. Provide the student with in-depth presentation of takeoff procedure and precise aircraft control by instrument reference.

Briefing (0.5 hrs):	Date	Date
Basic Flight Maneuvers		
Rules of Thumb for Instrument Flying		
Instrument Takeoff		
Changing Airspeed and Configuration		
Slow Flight		
Simulator and Radio Panel Controls		

Simulator (1.5 hrs)
Introduction:
Full Panel Instrument

Instrument Cockpit Checks		
Basic Instrument Familiarization		
Normal Takeoff into IMC		
Straight-and-Level Flight		
Standard Rate Turns		
Changing Airspeed in Level Flight		
Constant Airspeed while Changing Configuration		
Constant Airspeed Climbs and Descends		
Constant Rate Climbs and Descends		
Climbing and Descending Turns		
Maneuvering during Slow Flight		
Steep Turns		
Pitot-Static System Failures Demonstration		

Completion Standards:
Altitude: ± 200 feet
Heading: ± 20°
Bank angle: ± 10°
Airspeed: ± 15 kts

See instructor's comments on the back

Unit 5. Ground. VOR Navigation

References:
Jeppesen Ch. 2C
IFH Ch. 7
FAR 91.171
AIM Ch.1-1

Quiz # 3 Grade:

	Date
Basic Radio Principles	
Ground Wave	
Sky Wave	
Space Wave	
Disturbances to Radio Wave Reception	
VOR Components	
Ground Station, Service Volume	
Airborne Equipment	
VOR Receiver	
Antenna	
Omni Bearing Selector (OBS)	
Course Deviation Indicator (CDI)	
Horizontal Situation Indicator	
VOR Tuning and Identification	
VOR Orientation	
VOR Orientation Diagram	
Intercepting a Radial	
Tracking TO and FROM the Station	
Wind Correction, Bracketing Procedure	
Determining Progress	
Time and Distance to a Station	
Station Passage	
VOR Operational Errors, Reverse Sensing	
VOR Receiver Sensitivity Check	
VOR Receiver Accuracy Checks	
Distance Measuring Equipment	
Operational Principles	
Ground and Airborne Equipment	
Operating the DME Receiver, Identifying the Station	
DME Arcs	
DME Errors	

Practice Session:

VOR Orientation	
VOR Radial Intercept Procedure	

Unit 6. Flight 2. Simulator. Basic Flight Maneuvers, Full and Partial Panel

Complete ☐

Jeppesen Ch.2B
IFH: Ch. 4, 5

Objective: Review basic flight maneuvers to increase proficiency. Introduce the student to partial panel flying.

Briefing (0.5 hr):	Date	Date
Review Unit 4 as needed		
Basic Flight Maneuvers (Partial Panel)		
Recovery from Unusual Attitudes		

Flight (1.5 hrs)
Review:
Full Panel Instrument

Normal Takeoff into IMC		
Straight-and-Level Flight		
Standard Rate Turns		
Steep Turns		
Constant Airspeed Climbs and Descends		
Constant Rate Climbs and Descends		
Climbing and Descending Turns		
Changing Airspeed in Level Flight		
Constant Airspeed while Changing Configuration		
Maneuvering during Slow Flight		

Introduction:
Partial Panel Instrument (AI failure)

Straight-and-Level Flight		
Changing Airspeed in Level Flight		
Standard Rate Turns		
Constant Airspeed Climbs and Descends		
Constant Rate Climbs and Descends		
Climbing and Descending Turns		
Maneuvering during Slow Flight		
Recovery from Unusual Attitudes		

Completion Standards:
Altitude: ± 100 feet (full panel); ± 200 feet (partial panel)
Heading: ± 10° (full panel); ± 20° (partial panel)
Airspeed: ± 10 kts (full panel); ± 15 kts (partial panel)
Descend/Climb rate: ±200 fpm (full panel), ± 300 fpm (partial panel)

See instructor's comments on the back