



MASTER COURSE OUTLINE

Prepared By: Gregory Crane

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COURSE TITLE

Private Pilot Ground School

GENERAL COURSE INFORMATION

Dept.: AVF

Course Num: 112

(Formerly:)

CIP Code: 49.0102

Intent Code: 21

Program Code:

Credits: 5

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 55

Lab Hrs:

Other Hrs:

Distribution Designation: GE

COURSE DESCRIPTION (as it will appear in the catalog)

This course prepares the student to take the FAA private pilot knowledge examination. It includes elementary navigation, weather, federal aviation regulations, NTSB reporting procedures, radio procedures, AIM, advisory circulars, operating limitations, aircraft performance, principles of aerodynamics, power plants and systems, stall and spin awareness, ADM and judgment, preflight action and planning.

PREREQUISITES

AVF111 or Chief Pilot approval

TEXTBOOK GUIDELINES

Private Manual by Jeppesen

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Apply aeronautical knowledge to the degree necessary to pass the FAA written test for Private Pilot - Airplane.

INSTITUTIONAL OUTCOMES

IO2 **Quantitative Reasoning:** Students will be able to reason mathematically

COURSE CONTENT OUTLINE

The Practical Science of Flight

- The components of an Airplane?
- Why Airplanes Fly
- The Airplane in Flight
- Controlling the Airplane in Flight
- When the Wing Quits Flying

Flight Instruments

- Categories of Airplane Instruments
- The Pitot-Static Instruments

- The Gyroscopic Instruments
- The self-contained Instruments
- Using the Flight Instruments Together

The Powerplant and Its Systems

- Principles of Reciprocating Engines
- The Fuel System
- The Ignition System
- The Oil System
- The Electrical System
- The Propeller
- Power Plant Instrumentation and Controls
- Power Plant Operations

Airplane Weight and Balance

- Principles of Weight and Balance
- Airplane Weight and Balance
- Sample Weight and Balance Problem
- Handbook Methods for Solving Weight and Balance Problems
- Weight, Balance, and the Art of Piloting

Performance: Measuring and Airplane's Capabilities

- Handbook Performance Data
- Performance and the Atmosphere
- Takeoff Performance
- Climb Performance
- Cruise Performance
- Landing Performance
- Flying by the Book

Airports, Airspace, and Local Flying

- Planning and Conducting a Local Flight
- Airport and Runway Markings and Identification
- Airports and Controlled Airspace
- Radio Communications Techniques
- Flying at Night
- Airports: Special Considerations

Meteorology: A Pilot's View of Weather

- The Atmosphere Defined
- The Atmosphere in Motion
- Aviation Weather
- Clouds: Signposts in the Sky
- Air Masses and Fronts
- Weather and the VFR Pilot

Using Aviation Weather Services

- The Sources of Weather Information
- The Preflight Weather Briefing
- Interpreting Weather Charts
- Using Weather Reports and Forecasts
- Using Weather Advisory Services
- Using Weather Services: Two Simulations

Flight Information Publications

- Regulatory and Technical Publications
- Nonregulatory and Supplemental Publications
- Key Publications
- Using Flight Information
- Other Aviation Reading

Basics of Air Navigation

- Methods of Navigation
- The Earth--A Navigator's Frame of Reference
- Aeronautical Charts--Representations of Reality
- The Art of Pilotage
- Dead Reckoning Navigation
- DR Flight Computers
- DR Electronic Flight Calculators
- Care of Navigational Tools

Radio Navigation Aids

- Principles of Radio Navigation
- Overview of Radio Navaids
- VOR Navigation
- VOR Navigational Procedures
- Distance Measuring Equipment
- Automatic Direction Finding
- Area Navigation
- Radar-Assisted VFR Navigation
- Other Avionic Aids and Displays
- Flight Planning with Radio Navaids

Composite Navigation: Going Cross-country

- Overview of Flight Planning Procedures
- Going Cross-country
- General Tips for Cross-country Flying

The Physiology of Flight

- Effects of Flight on the Human Body
- Effects of Stress on the Human Body
- Oxygen-related Disorders
- Motion-related Disorders
- Overcoming Stress-related Disorders
- Determining your Fitness to Fly

DEPARTMENTAL GUIDELINES *(optional)*

Evaluation is by written examinations, consisting of quizzes, mid-term and final. Grading procedure includes attendance. Grades will be earned in accordance with the following standardized table Note *70% is lowest passing grade.

98-100%	4.0	92%	3.4	86%	2.8
97%	3.9	91%	3.3	85%	2.7
96%	3.8	90%	3.2	84%	2.6
95%	3.7	89%	3.1	83%	2.5
94%	3.6	88%	3.0	82%	2.4
93%	3.5	87%	2.9	81%	2.3

80%	2.2	76%	1.8	72%	1.1
79%	2.1	75%	1.7	71%	0.9
78%	2.0	74%	1.5	70%	0.7
77%	1.9	73%	1.3		

DIVISION CHAIR APPROVAL

DATE