

I. COURSE DESCRIPTION:

- A. Division: Technical
Department: Aeronautics
Course ID: AERO 122C
Course Title: FAA Private Pilot Ground School
Units: 6
Lecture: 6 Hours
Laboratory: None
Prerequisite: None
- B. Catalog Description:
An entry level course in preparation for the F.A.A. pilot written examination including aerodynamics, weight and balance, flight computer, navigation, meteorology aircraft familiarization, in-flight and airport traffic area procedures, radio communications procedures, flight planning, and Federal Aviation Regulations.
- C. Schedule Description:
An entry-level course in preparation for the F.A.A. pilot written examination including aerodynamics, weight and balance, flight computer, navigation, meteorology aircraft familiarization, in-flight and airport traffic area procedures, radio communications procedures, flight planning, and Federal Aviation Regulations.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: One

III. EXPECTED OUTCOMES FOR STUDENTS:

Upon completion of this course, students will be able to:

- A. Apply the knowledge gained in those basic areas, which the Federal Aviation Administration outlines in Part 141 and Part 61 of the Federal Aviation Regulations to satisfactorily pass the FAA written examination.
- B. Research and compute weight and balance, performance charts and weather information and charts.
- C. Construct cross-country flight plans.
- D. Distinguish and use safe operating and pre-flight planning.
- E. Interpret proper communications procedures and respond to proper airport operations; and
- F. Define emergency procedures and respond with the appropriate responses.

IV. CONTENT:

- A. Introduction
- B. On Becoming a Pilot
1. Pilot training process and requirements
 2. Typical training program
 3. Qualifying for the pilot certificate
- C. The Practical Science of Flight
1. The part of the airplane
 2. Why airplanes fly
 3. Controlling the airplane in flight
 4. Aircraft stability
 5. Special flight situations
 6. Stalls, spins, and recovery techniques
- D. The Power Plant and Its Systems
1. Principles of reciprocating engines
 2. The oil system
 3. Airplane fuels and fuel systems

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4. Airplane ignition system
5. Standardization of controls
6. The electrical system
7. Power plant operations
- E. Flight Instruments
 1. The pilot-static instruments
 2. The magnetic compass
 3. The gyroscopic instruments
 4. Using the flight instruments
- F. Airplane Weigh and Balance
 1. Principles of Weight and Balance
 2. Determining gross weight and center of gravity
 3. Using weight and balance in flying
- G. Performance: Measuring an Airplane=s Capabilities
 1. The source of performance data
 2. The influence of air density on performance
 3. Takeoff performance
 4. Climb performance
 5. Cruise performance
 6. Landing performance
- H. Airports, Airspace, and Local Flying
 1. Airport and runway markings
 2. Aircraft traffic patterns
 3. Controlled and uncontrolled airspace
 4. Radio communications techniques
 5. Flying at night
 6. Noise abatement
 7. Planning and conducting a local flight
- I. Meteorology: A Pilot=s View of Weather
 1. Elements of the atmosphere
 2. Motion and effects of the atmosphere
 3. Aviation weather
 4. Cloud recognition and relevancy
 5. Air masses and fronts
 6. Weather and the VFR pilot
- J. Using Aviation Services
 1. Sources of weather information
 2. Interpreting weather charts
 3. Weather reports and forecasts
 4. The preflight weather briefing
 5. Getting inflight weather information
- K. Flight Information Publications
 1. Regulatory publications
 2. Nonregulatory and supplemental publications
 3. Aeronautical charts
 4. Operational publications
- L. Federal Aviation Regulations
 1. FAR Part 1: Definitions and Abbreviations
 2. FAR Part 61: Certification of Pilots
 3. FAR Part 67: Medical Standards
 4. FAR Part 91: General Operating and Flight Rules
 5. FAR Part 135: Charter and Air Taxi
 6. FAR Part 830: Nat=l Transportation Safety Board

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- M. Basics of Navigation
 - 1. Methods of navigation
 - 2. Latitude and Longitude
 - 3. Aeronautical charts
 - 4. The pilotage technique
 - 5. The dead reckoning technique
 - 6. Flight computers
- N. Radio Navigation Aids
 - 1. Overview of radio navigational aids
 - 2. VOR navigation
 - 3. Distance Measuring Equipment (DME)
 - 4. Automatic Direction Finder (ADF)
 - 5. Area Navigation (RNAV)
 - 6. Radar assistance
 - 7. Flight planning with radio aids
- O. Composite Navigation: Going Cross-Country
 - 1. Overview of flight planning
 - 2. Cross-country flight planning
- P. The Physiology of Flight
 - 1. Effects of altitude on the human body
 - 2. Effects of motion on the senses
 - 3. Night Vision
 - 4. Effects of noise, short and long term
 - 5. Effects of drugs when used in aviation
 - 6. Effects of stress on the human body
- Q. Handling Airborne Emergencies
 - 1. Common causes of emergencies
 - 2. Emergency landings
 - 3. Recognizing and handling emergencies
 - 4. Assistance for lost pilots
 - 5. Communications during emergencies
 - 6. General rules for flying safety
- R. Preparation for the FAA Private and Commercial Pilot Written Examinations
 - 1. Multiple simulations of FAA written examinations

V. METHODS OF INSTRUCTION:

Methods of instruction may vary from instructor to instructor, but may include:

- A. Lectures;
- B. Discussion between teacher and students or from students working in a group;
- C. Audio visual aids and demonstrations; and
- D. A minimum of 12 hours of written homework will be assigned each week.

VI. TYPICAL ASSIGNMENTS:

- A. Given a Los Angeles sectional chart, plan a flight from the San Bernardino Airport to the Santa Barbara Airport.
- B. Decipher an aviation weather teletype sequence report appropriate for a flight to Kansas City and use your flight computer to calculate the appropriate heading considering the winds aloft given.

VII. EVALUATION(S):

- A. Methods of Evaluation:
 - 1. Oral questioning
 - 2. Quizzes

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3. Examinations
4. Mid-term examination
5. Final examination

Typical Questions:

- a) Outline the proper procedure for entry into non-towered airport traffic area including required safety precautions, correct altitude, radio procedures, traffic pattern entry procedures.
- b) From the information given, lay out a flight plan from Rialto Airport to Meadows Field in Bakersfield.

B. Frequency of Evaluation:

1. Timely quizzes
2. One mid-term examination
3. One final examination

VIII. TYPICAL TEXT(S):

Glaesser, Gum, Walters, Invitation to Fly, Wadsworth Publishing, 1996
U. S. Printing Office, Private Pilot Test Guide, Aviation Supplies and Academics Inc. 2002

IX. OTHER SUPPLIES REQUIRED OF STUDENTS:

Computer (E6B) & Plotter