

Ground Lesson 11 – Cross-country planning.

Objective:

For the student to understand the fundamentals of visual navigation and a practical understanding of using the flight computer.

Content:

Visual navigation fundamentals

___ Aeronautical charts ___ Pilotage ___ Dead reckoning ___ Radio navigation
___ Course ___ Minimum safe altitude ___ Altitude/flight level ___ True airspeed
___ Winds aloft forecast ___ Ground track/ground speed ___ Drift/wind correction angle
___ True heading ___ Magnetic heading accounting for variation and deviation
___ Tracking error ___ Latitude/longitude ___ Nautical mile ___ Knot
___ VFR cruise altitude
___ Standard/local time ___ UTC/Zulu time ___ Daylight time

Using the flight computer

___ Finding density altitude ___ Finding TAS with known indicated airspeed
___ Finding wind components ___ Finding/determining headings and groundspeed
___ Finding the time en route and fuel requirements ___ Speed-Time-Distance problems
___ Fuel consumption problems ___ Conversions
___ Review cross-country flight requirements (per 14 CFR §61.93)

Completion Standards:

This lesson is complete when the student has successfully completed all review questions following the assigned reading.

Assignment for this lesson:

- Read/Study practice questions on the *Sport Pilot Prepware CD* "Cross Country" section.
- Read *Pilot's Handbook of Aeronautical Knowledge*, Chapter 14 - as specified in "HPTS Sport Pilot Guide of What to Study," in this book.

Go through the instruction book on your flight computer (either the circular slide rule E6-B or the electronic CX-2 can be used). Do some simple problems, as listed below, that are typical for your aircraft operation. Instructor fill in variables, student calculate answers.

Distance _____ / speed _____ = time _____
Pressure Altitude _____, temperature _____ = density altitude _____
Indicated airspeed _____ density altitude _____ = true airspeed _____
Wind _____, true airspeed _____ = ground speed _____
Wind _____, true course _____ = true heading _____
True heading _____, magnetic variation _____, deviation _____ = magnetic Heading _____

Fill out Flight Planning Log for flights _____

Lesson Results:

Date of completion _____ Instructor Signature/ID _____

Student Signature _____ Time flown _____

Instructor remarks: