

SYE 3803 (Avionics)

Homework #2

Due Date: 1/27/2015 at class time

Problem #1:

You have departed out of Peachtree Dekalb Airport (PDK), and are tracking a 110° bearing to the Augusta (Daniel Field) NDB. Your Cessna 172 is cruising at a speed of 120 kts. Beyond midway through the flight you decide to divert to East Georgia Regional Airport in Swainsboro to pick up your friend. Using your single-needle RMI ADF you need to determine how long it will take to get to the Swainsboro airport to make sure that you arrive in time to get your friend. Therefore, you tune to the Swainsboro NDB and notice that the needle just happens to be 90° to the right of your heading. You note the time and fly for one minute on your original heading. The RMI has shifted to 92° to the right of your heading. Answer the following:

- 1) How long (minutes) will it take you to redirect and fly to the East Georgia Regional Airport?
- 2) How many nautical miles are you from the East Georgia Regional Airport?
- 3) Plot the following on a map of Georgia: Peachtree Dekalb Airport, Daniel Field Airport, East Georgia Regional Airport, and your aircraft's position when you determine the time and distance to East Georgia Regional Airport. Also draw your original flight path and your diverted flight path.
- 4) Using the distance scale of the map show that your distance calculation in procedure #2 was accurate. If it was off by greater than 10%, then please explain what could have been wrong.

Problem #2

You intend to intercept and fly the 235.0° NDB (Morse Code ID: LNH) located at the East Georgia Regional Airport all the way to the airport from your flight diversion point that you determine in problem #1. Explain (step by step) how you intend to intercept and fly this bearing.