**Lab 5 | Navigation & Scavenger Hunt**

**Introduction**

In this lab you will work with the Navigation tools available in the Trimble Juno.

**Instructions**

Use a generic data dictionary for this assignment.

**Deliverables**

Two Maps

1. Your data with basemap
2. The data you found with basemap

The Generic data dictionary will be used. You must be able to show the necessary results on a map. Be sure to include all required map elements (i.e. title, north arrow, scale, name).

***Part I - Create a Scavenger Hunt***

\*\*You will need a Juno and a notepad\*\*

1. Check the settings in TerraSync: WGS 84, Log Later, min 30 positions at each point, 1 sec logging, 10m required accuracy… etc.
2. Collect 10 points around PCC’s campus. It is best to collect a point for a thing (sign, planter, bench, and so on) instead of just randomly in the middle of a sidewalk or grassy area.
	1. In the comment field for each point, just type in that point’s number (1-10) – *nothing descriptive*!
3. For each point, make of note of the item you are collecting on your notepad. You will use this information in your first map.
4. Bring the data back to the lab and transfer the file from the Juno to the computer using the Data Transfer Utility.
5. Differentially correct the data
6. Export the *Corrected* data to shapefile.
7. Bring your data into ArcMap. Remember, you will have to define the projection in ArcMap.
8. Make a map of the data you collected with a base image.
	1. Label the features based on the notes you took using the insert text tool. No legend is needed for this map.
	2. Use the draw toolbar to draw circles around the items (not necessarily the points) in the base image you intended the point to be on. If a point is very far off of the item you were intending to collect (30m +), then go out and recollect.
9. In Windows Explorer, navigate to where your shapefile is stored and select all of its components (may be up to 7 individual files). “Zip” your shapefile and give the zipfile a name that’s your first initial, last name, and Lab5 (for example: “LSkywalker\_Lab5.zip)
	1. *Be sure you zipped up all the components of the shapefile!!*
	2. You will give this zip file to a classmate

***Part II - Complete a Scavenger Hunt***

1. After you’ve obtained someone else’s data (get their name – you’ll need it for the map), unzip it to your flash drive, and transfer the shapefile to your Juno using the Data Transfer Utility.
2. Check the settings in TerraSync (same as in Part I).
3. Go to the Map View and select the shapefile as a background file.
4. While in Map View select a point using the stylus. Click on Options and select Set Nav Target.
5. Go to the Navigate screen and start walking to start the navigation. ***Note the estimated accuracy as you navigate and find the point.***
6. Navigate to the point and go to the Data menu. Create a new rover file. The generic data dictionary is fine
7. Collect the point with at least 30 positions and put in a descriptive comment of the item you navigated to.
8. Do this for all 10 points in the file.
9. When you are done, close the rover file and exit TerraSync.
10. Transfer the data from the Juno to the computer using the Data Transfer Utility.
11. Differentially correct the data.
12. Export the *Corrected* data to shapefile.
	1. Include the Horizontal Precision attribute in the export.
13. Bring the data into ArcMap. Remember, you will have to define the projection in ArcMap.
14. Take a look at the horizontal precisions for the points you collected.
15. Make a map of the data you collected with a base image.
	1. Label the features using the comment field. No legend is needed for this map.
	2. Include the name of the person whose data you were navigating to in the subtitle of your map.
	3. Include a text box on this map and answer the question:
		1. ***Based on the observed horizontal accuracy in the field and the recorded horizontal precisions, how successfully do you think you navigated to the intended points? Explain.***