**Part 1: Forest Plot Sampling** **(30 minutes)**

*Protocol*: Measure all aspects requested below on your assigned plot. Azimuth to each tree should be measured to the tree’s base. Distance to each tree to the tree’s center from the plot center pin. The plot sampling is worth 25 points.

Then, calculate the stand-level density metrics as listed. Use any blank space (e.g., on the back of this sheet) to **show all of your work** in making your calculations.

Plot number: 1 Plot Radius: 10 m Plot Area: 1/32 hectare

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tree Number** | **Azimuth** | **Distance (0.01 m)** | **DBH (0.1 cm)** | **Live Crown Ratio** |
| 1 | 66 | 4.50 | 56.2 | 90 |
| 2 | 134 | 4.15 | 84.7 | 95 |
| 3 | 260 | 6.35 | 69.4 | 80 |
| 4 | 328 | 2.90 | 22 | 60 |
| 5 | 336 | 9.00 | 28.4 | 45 |
|  |  |  |  |  |

Metrics: (7 pts for tph & BA, 8 pts for Med & Mean)

Trees per hectare: \_\_\_160\_\_\_\_\_\_\_\_\_\_\_

Basal area per hectare (m2): \_\_\_\_41.3\_\_\_\_\_\_\_\_\_\_\_

Median DBH: \_\_\_\_\_56.2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Average Live Crown Ratio: \_\_\_\_\_\_74\_\_\_\_\_\_\_\_\_\_\_\_

**Part 2: GPS Navigation** **(30 minutes)**

*Protocol*: Using the GPS device provided, follow the steps below to navigate around campus. Make sure that Position format is **UTM UPS** and Map Datum is **NAD83**.Also, the distance should be **Metric** and elevation should be **Feet**. (8 points each)

**Tasks**

1. Walk over to the **Arizona State Museum Sign**. Record the following:

Easting: \_\_\_\_\_0504169\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Northing: \_\_\_\_3566135\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Elevation: \_\_\_\_~2400’\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Error: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Navigate to this location: **0504160 3566103**

Describe what you have found:

* + Women’s memorial, AZ stonehenge

1. Navigate to this location: **0504363 3566066**

Describe what you have found:

* + Coffee Shop kiosk

1. Navigate to this location: **0504421 3566207**

Describe what you have found:

* + Door to Engineering building

1. What is the azimuth and distance from your last point back to your starting point?
   * 265 deg, 237 m