

Backyard Field Trip

Goals

This lab will give you experience collecting data and using maps in the “field.” Attached is a map provided to us from ASU’s Facilities Management department. You will work in teams to collect the data necessary to accomplish the tasks below; then you’ll each write up an individual report. You will not be given specific instructions and your answers will rely on estimation. Therefore, the answers you give may not be “correct” or “incorrect” – a complete answer will show a thoughtful and careful consideration of the problem and any of a number of creative ways to solve it. Please record your answers on this sheet during the lab period and then use your notes to assemble a typewritten report.

To turn in:

In “hard copy”: The **map you worked on in this class** (with trees and labels as described in task 4 – but doesn’t need to be neat – turn in your working copy). Turn in before or after class, or to Shuyao Hong’s mailbox in Coor Hall rm 5671.

On Blackboard: A write-up, typed and saved as a PDF or Word file, that includes the following:

- The **number of the grid area** you worked on.
- The **names of the other members** of your team.
- **Solutions to tasks 1-3 below**, with a brief explanation of the method you used to arrive at the answers
- **Responses to tasks 5 and 6** – brief but reflecting your thoughtful consideration.

Grading

Points for each problem are marked; here are some criteria that will be used:

- **Accuracy of answers** – answers should be close to the correct answers; some leeway for estimation errors will be granted
- **Careful explanation of answers** – work should be shown, and a description of the method used to derive the answers is necessary for full credit
- **Map indicates tree locations & approximate canopy sizes**– neatness not necessary
- **Reflections section** – this should be original and unique, though the result of a team effort. *Length should be between 100 and 200 words – a paragraph or two.*

Lab procedures

Your team has been given responsibility to survey features in one of twelve grid areas near our classroom.

The map on page 4 shows the area along Cady Mall, from Lemon Street to the fountain north of the MU. You will also receive a larger-scale map of your team's grid areas. Proceed to your grid area and work on the five tasks that follow. When your team is done, you're free to leave for the day.

1. Interpret the map symbols. (2 points)

Through observation, determine the meaning of the following symbols on the map (if they're not in your grid area, you can check out an adjacent area):

- a. gray polygons
- b. white lines within the gray polygons
- c. dashed thin black lines
- d. solid thin black lines

2. Determine the scale of the larger scale map. (4 points)

- Select two points in your campus grid square (on the larger scale map) – the corner of a building, the corner of a walkway, a column on a building, etc. Use a ruler or use the short centimeter ruler on the page to determine the number of centimeters on the map between two points in your grid area.
- Determine (somehow – up to you) the distance on the ground between these two points. It would be helpful to use a similar unit to your measurement on the map: use meters on the ground if you've used centimeters, use feet or yards on the ground if you've used inches.
- Find the representative fraction scale of the map (i.e., your grid area map). There are 12" in a foot, 100 cm in a meter, 36" in a yard. Remember, if you've used inches on the map, you need to find how many *inches* on the ground you have measured.
- **In your lab write-up, give the representative fraction you calculated, and explain clearly how you came up with the fraction you did.**

3. Determine the area of your map. (3 points)

Determine the area shown on your group's map, either in square meters or square feet. **Show or explain how you calculated your answer.** *Hint:* There are 144 square inches (12 x 12) in a square foot, and 10,000 square cm (100 x 100) in a square meter.

4. Label trees. (4 points)

Each mature tree on the ASU campus is a part of the Arboretum at ASU, and most have small signs on their trunks indicating the type of tree. **On your grid area map, indicate the positions of the 4-6 largest trees in your area, and (if labeled with signs) the trees' names.** Include some indication of the size of the canopy formed by the trees' branches and leaves.

5. Consider cartographic “silences.” (2 points)

Other than trees, what types of features in your grid area are not labeled on the map? Find **three** types of **permanent features** (i.e., they will likely still be there in June) in your grid area and list them here. Give possible reasons that these features are not on this map.

6. Reflect on the collection of these data. (5 points; length 100-200 words)

In this last section of your write-up, reflect on your experiences collecting this data. Consider the following – these are some of the questions you might comment on:

- How did you decide how to do the five exercises above?
- Did your group consider other ways to accomplish the tasks? Might there have been better ways to do the tasks?
- How much error do you think is in your set of answers?
- Which task was most difficult? Do you think that having other tools could have made your jobs easier?
- How many of these tasks could you have done with the map alone? In what ways did the experience of being “in the field” help collect these data?

