

Name _____ Lab Section _____ Group _____

Ecology Lab Report (40 pts)

Due Mon. 1 Dec. 9pm at Hirrel's office, LSC 143, or to your lab instructor

Format will be the same as with other reports. All reports must be typed and stapled. Graphs for figures may be done by hand, but captions must be typed.

Avoid sharing your written work. Work that appears to be a collaborative product with other students will result in a significant loss of points or a zero for all involved.

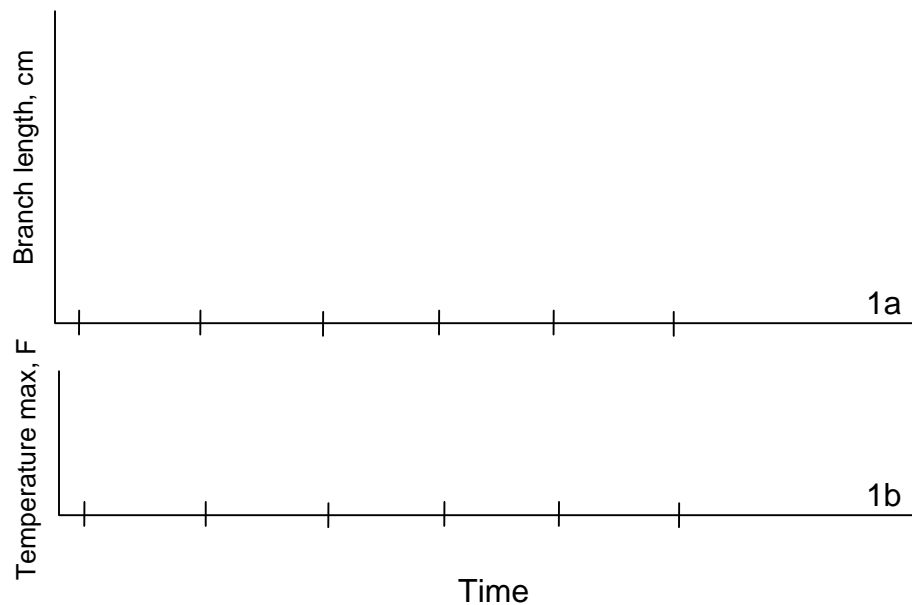
Woodland Phenology Plot (25 pts)

Figure 1(10 pts)

Construct a **graph 1a** for a figure of data from your Woodland/branch phenology plot in which you tracked some measurable/quantifiable variable you observed changing over the days and weeks. *Part of the problem is how best to express time.*

Calendar date, or # days from your first observation.

Beneath your first graph, construct another **graph 1b** of weather pattern (temp. max or min., rainfall, humidity, daylength, etc.) for UCA, Conway over the same time frame. In this way you can relate key phenology events to weather. (6 pts) See example below.



Complete the figure by writing a caption for the two graphs include one sentence on the most important phenology event (greatest growth period) and one sentence relating it to a weather event. Be sure to include a time frame in calendar months and days (*from Sep. ## to Oct. or Nov. ##*) and the number or schedule of observations made, for example, *13 observations were made or observations were made every 3-4 days*. (4 pts)

Conclusions (15 pts)

Write two paragraphs. Consider the biology/ecology of the variable; why was it important to measure your variable, what do the changes mean relative to weather and to the season of autumn. Briefly describe how did you rate the changes in leaf color, herbivory, or disease severity. How did changes in weather pattern relate to changes in you're the variable you measured.(10 pts)

In the second paragraph, connect these changes to the nature reserve as a whole in terms of Energy Flow or the carbon cycle. Refer to Raven et al. pg. 1196-1998 in chapter 57. (5 pts)

Prairie Plant Interaction Plots (15 pts)

Your group tracked the changes that occurred in two adjacent JMNR prairie plants. One was a broadleaf plant (dicot) and the other a grass (monocot). Like your woodland branch, you monitored different ecological variables (herbivory, color change, etc) for these plants overtime. Select the variable that showed the greatest difference between the two plants.

Figure 2 (6 pts)

Construct a figure contrasting the greatest difference in the two plants observed over time. Compare the means and standard errors; n will equal the number of observations made on your variable. In your caption, compare the differences between means quantitatively and determine if the means are significantly different.

Conclusion (9 pts)

Write a paragraph that first states your null hypothesis about the change in the variable that you predicted would occur overtime. Describe how those changes took place and any weather event that may have had a greater effect on one plant than the other. Justify why you are supporting or rejecting your hypothesis by referring to specific data in Figure 2.