ESCI 221 Soils and Sustainable Agriculture

Mid-term lab report

Your grade for the first half of the semester will be based on attendance and on the mid-term lab report. In the interest of giving you some feedback on your performance before October Break, the lab report will be due one week earlier than it says on the syllabus so I can grade it and get it back to you by the next Friday. Therefore

**NOTE**: mid-term lab report is due Friday, October 7, 2011 at 5pm

Here are some guidelines for the writing up the lab report:

The mid-term lab report will follow the same outline as a scientific papers. The requisite sections are:

Introduction

Methods

Results

Discussion

Conclusion

The Introduction section tells the reader some background, and makes the topic seem interesting enough to read on. Here the main question (or questions) are laid out and background is given.

The Methods section tells about field and lab methods used to collect and analyze the specimens.

The Results section outlines the results of field and lab analyses. Be sure to include everything, from location of the site (including a map), description of the site (including weather and vegetation), test pit logs (with prose descriptions), and tabulations of lab results (with prose descriptions).

The Discussion section discusses the Results in terms of the questions raised in the Introduction section. These two sections are closely related.

The Conclusion section reiterates the main points of the paper. Nothing new is presented in the Conclusions.

The biggest challenges in writing a paper like this are writing an adequate Introduction, outlining all the questions you will be addressing, and keeping the Results and Discussion sections separated. For instance, if there is a trend on a graph, the Results section will describe the trend and note possible correlations, but the Discussion will speculate on the reasons for the trend or correlations.

Some of the interesting comparisons the paper will want to make include (this list is not exhaustive list and not in any particular order):

Relationship between field and laboratory measurements of physical characteristics (texture, structure, color, moisture content, organic matter content).

Relationships between bulk density, porosity, and moisture content.

Relationship between nutrient levels and physical characteristics of soil (including nature and thickness of O horizon)

Similarities and differences between the two soils (delta and drumlin)

The overarching question to be asked (and answered) by this lab report is: what is the relationship between the five soil formation factors in determining the characteristics of the soil at the two locations (delta and drumlin)?

The lab report is due Friday, October 7, 2011 at 5pm. It is probably smart to begin work on this report before the last moment. Some things, like the Introduction, can be started now since you have been to the sites once or twice, and have presumably been thinking about the relationship of soil formation factors at each site. The Methods sections should be pretty easy, and you can begin to fill in the Results as you get them. Then you will just need to complete the Discussion and Conclusion sections before turning it in.