# Lab 05 (Due Thursday, February 17th, 2015)

**Lab 05: Development of a Contour Map**

Develop an instructional manual for developing contour map underlain by a soil map or a satellite image, and for creating lines, and determining their slopes. Instructions should be provided for

* Converting the field markers to UTM coordinates(<http://www.earthpoint.us/Convert.aspx>),
* Georeferencing the satellite image in UTM coordinates,
* Re-projecting the soil map from WGS84 to UTM,
* Creating contour lines from a digital elevation model,
* Clipping the contour lines with the field boundaries,
* Labeling the contour lines,
* Creating a line shapefile with the existing drain lines in the field,
* Determining the slope of the drain lines,
* Labeling the drain lines with their slopes,
* Preparing and presenting final maps
* Any other information you deem relevant

You may use the field for which information is provided below, or for any other field, to provide examples

**Coordinates for field markers**

|  |  |  |
| --- | --- | --- |
| **Point** | **Latitude** | **Longitude** |
| Local Origin | 40.083703 | -88.223664 |
| Top left marker | 40.087312 | -88.223715 |
| Bottom left marker | 40.083656 | -88.223724 |
| Middle right marker | 40.086182 | -88.219027 |
|  | | |
| **Point** | **UTM-x** | **UTM-y** |
| Local Origin |  |  |
| Top left marker |  |  |
| Bottom left marker |  |  |
| Middle right marker |  |  |