All lab classes will meet in Mackay Science 222 (MS222) unless stated otherwise. Do not bring food or uncovered drinks into the lab. It is okay to work with others on lab assignments as long each person turns in an individually distinguishable assignment. The primary software we will use during lab sessions is ArcGIS Desktop 9.3. During lab sessions we will be using geographic data from many sources. The majority of the data however, will be set up for you prior to lab. This does not mean that data will be managed for you. There are a few points lab users should remember concerning data management:

- After downloading data for a specific lab, you are responsible for it. Always know where you are storing your data.
- It is not a good idea to store data on lab computers, e.g. c:\workspace. **Data on lab computers may be erased at any time during the semester.**
  - Store your data at a network location such as Mackayfs or use an external hard drive.
  - See below for specific tips on storing your data on the network or on an external drive.
- For each lab, develop a consistent directory structure to help keep your data organized.
  - Example:

```
- Geog210_Lab1
  - Section1
  - Section2
    - Projects
      - NVMap.mxd
    - RaterData
      - nv70mderr
      - nv70mhill
    - VectorData
      - NV.gdb
        - AdjStates
        - NVCities
        - NVCity8nds
        - NVCounties
        - NVHighways
        - NVInterstates
```
  - Keeping your data organized will help you be more efficient and will help if you need to revisit a specific lab.
- Do not use spaces in the names of your directories or files. For example ‘Reno Streets’ should be ‘Reno_Streets’ or ‘RenoStreets’
Storing data at a network location:

If you choose to store your data at a network location such as Mackayfs you first need to be connected to that location. You should automatically be connected to Mackayfs for any lab computer you logon to. If not, you can connect using the following instructions:

1. Map Network Drive: Mackayfs
   a. From your windows desktop, double click on ‘My Computer’ ➔ From the ‘Tools’ pulldown menu select ‘Map Network Drive’ ➔ choose Drive letter V: ➔ in the Folder field type:

   \mackayfs.mines.unr.edu\users\students\<your user name>

   ➔ Press finish to connect to the Network Drive.

2. You will also have to connect to the network location through ArcCatalog. It is advisable to connect using a UNC path vs. a local file system (LFS) path.
   a. A UNC path uses a server name instead of a drive letter for the connection properties:
      i. UNC Path ➔ \mackayfs.mines.unr.edu\users\students
      ii. Connecting to the same location using a LFS path would simply give you a drive letter, e.g. Y:\
   b. To connect to a server directory using a UNC path in ArcCatalog use the connect to folder button 🔄.
      i. In the connect to folder dialog, instead of selecting a folder to connect to, type in the UNC path, e.g.
         \mackayfs.mines.unr.edu\users\students\<your user name>
      ii. and press OK.

Why use the UNC path instead of the LFS path? Connecting to a directory via a UNC path bypasses a common problem encountered with using LFS paths in ArcGIS. The problem occurs when a user connects to a folder on one computer that gets assigned a drive letter, e.g. T:\, then creates a map document with data from the T:\ connection. If the user then makes another LFS connection at another computer the connection to the folder may get assigned another drive letter, e.g. Y:\. Now when the map document created on another computer, the map document will look for the data it needs to draw the map on T:\ which doesn’t exist on the current computer, only Y:\ exists. UNC paths don’t use drive letters and thus do not cause this problem.

Storing data on an external harddrive:

If you choose to store data on an external harddrive you cannot connect to the drive using a UNC path. To solve the drive letter problem in this case the user should store relative paths with their map document. This requires a greater level of organization but will ensure that your map documents will always connect to your data.
1. To store relative path names in ArcMap:
   a. From the File pulldown menu, select ‘Document Properties’ → Data Source Options → select ‘Store relative path names to data source’ → and ‘Make relative path the default for new map documents I create’ → OK.
   b. Now Drive letters will not be stored with your map document.
      i. This will only work if your data and map document are stored on the same drive. You cannot store your map document on your hard drive and reference data on a network drive if you use relative path names.