

# CEE3430 Engineering Hydrology

## ***Homework 1. Hydrologic Principles***

Date: 1/10/11

Due: 1/19/11

**Objective.** The objective of this homework is to gain experience applying water balance concepts in hydrologic analysis and in the determination of watershed properties.

1. Bedient 1.2
2. Bedient 1.3
3. Bedient 1.4
4. Bedient 1.15
5. Bedient 1.16
6. Bedient 1.17
7. Streamstats is a USGS web service that helps with watershed delineation and calculation of watershed attributed for hydrologic analysis. Go to the Utah Streamstats website <http://water.usgs.gov/osw/streamstats/utah.html>.
  - a) Zoom in on the Logan River and determine the drainage area in square miles upstream of First Dam as best you can. Calculate the mean annual precipitation in inches and prepare a graph that shows the mean precipitation each month. Hand in a computer screen shot picture that depicts the Logan River Watershed as you delineated it using Streamstats.
  - b) Repeat (a) for another location of interest in Utah.

[Some hints on using Streamstats.

- Turn the popup blocker off
- If blank screen, select ESRI\_Imagery\_World\_2D for navigation
- Zoom in close to see streams as pixels
- Click exactly on stream with watershed delineation from a point
- Click Basin Characteristics and Compute parameters to obtain desired basin parameters
- Use Alt PrtScn to capture screen into coy buffer. Paste in to Paint to crop and edit for hand in.]