ES301 Final Portfolio Checklist (Winter 2008) **Due Wed. March 19, 2008**

In a neat, professional-looking package (3-ring binder) that is well labeled, include the following class activities, in order:

13 Waltham Chapter 5 – Trigonometric Applications to Geologic Problems

14 Surfer Tutorial (http://www.wou.edu/las/physci/taylor/g302/surf_tut1.pdf)
- Demo Contour Map (data, grid, map)
- Demo Contour Map with Color Fill
- Demo Wireframe Map
- Demo Wireframe with Color Fill Zones
- Demo Post / Contour Map Overlay
- Demo 3D Surface Map

15 Using Surfer to Create Elevation Models (http://www.wou.edu/las/physci/taylor/g302/surfdem.pdf)
- DEM / contour map of Monmouth quad
- Marys Peak Contour Map
- Marys Peak Shaded Relief
- Marys Peak Vector
- Marys Peak Contour / Vector Overlay
- Hometown quad contour map
- Hometown quad shaded relief
- Hometown vector map
- Hometown quad contour / vector overlay

16 Intro to Contouring and DEMs (http://www.wou.edu/las/physci/taylor/g302/intro_contouring_dem.pdf)

17 Grapher Tutorial (http://www.wou.edu/las/physci/taylor/g302/grph_tut.pdf)
- Scatter plot / line plot
- Scatter plot / point modification
- Scatter plot with labels
- Scatter plot with lines, points, labels
- Combination Line / Bar Graph

18 Waltham Text Triangular Graphs / Rock Composition Problem
- Waltham Ternary Plot Exercise (7 plots of petrologic chemistry data)

19 Application Ternary Diagrams to Sandstone (http://www.wou.edu/las/physci/taylor/g302/ternary.pdf)
- QFL Data renormalization / hand plot
- Grapher QFL Diagram

20 Intro to Excel Data Analysis (http://www.wou.edu/las/physci/taylor/g302/Intrexcl_ver2.pdf)

21 Integrated Final Project (http://www.wou.edu/las/physci/taylor/g302/final_project_w07.pdf)
- Task1
  - Mt. Bachelor Contour Map 10-ft
  - Mt. Bachelor Contour Map 20-ft
  - Mt. Bachelor Shaded Relief 335 sun azimuth
  - Mt. Bachelor Shaded Relief 200 sun azimuth
  - Mt. Bachelor Wireframe
  - Mt Bachelor Contour/Vector Overlay
  - Bachelor Butte USGS 10-m DEM Shaded Relief Map (scaled w/north arrow)
  - Bachelor Butte USGS DRG Base Map (scaled w/ north arrow)
- Task 2
  - Rose Diagram / fracture data
- Task 3 – Appalachian Morphometry Exercise
  - X-Y Plot of Drainage Area (y axis) vs. Slope (x axis) Fernow Area (with linear regression)
  - X-Y Plot of Drainage Area (y axis) vs. Slope (x axis) North Fork Area (with linear regression)
  - X-Y Plot of Drainage Area (y axis) vs. Slope (x axis) Little River Area (with linear regression)
  - X-Y Plot of Valley Width (y axis) vs. Distance from Divide (x axis) Fernow Area (with linear regression)
  - X-Y Plot of Valley Width (y axis) vs. Dist. From Divide (x axis) North Fork Area (with linear regression)
  - X-Y Plot of Valley Width (y axis) vs. Dist. From Divide (x axis) Little River Area (with linear regression)
  - Rose Diagram of Hillslope Aspect Fernow Area
  - Rose Diagram of Hillslope Aspect North Fork Area
  - Rose Diagram of Hillslope Aspect Little River Area
  - Polar Plot of Slope Gradient vs. Aspect Fernow Area
  - Polar Plot of Slope Gradient vs. Aspect North Fork Area
  - Polar Plot of Slope Gradient vs. Aspect Little River Area
  - X-Y Plot of Slope Length (y axis) vs. Hillslope Gradient (x axis) Fernow Area (with linear regression)
  - X-Y Plot of Slope Length (y axis) vs. Hillslope Gradient (x axis) North Fork Area (with linear regression)
  - X-Y Plot of Slope Length (y axis) vs. Hillslope Gradient (x axis) Little River Area (with linear regression)
  - Hillslope Statistical Summary Data
- Task 4 – Newberry Cone Analysis
  - Cone Distance between cone 1 and cones 2-296
  - Cone Azimuth between cone 1 and cones 2-296

22 Optional: Alluvial Fan Lab (http://www.wou.edu/las/physci/taylor/g302/fanex2.pdf)