

ES301 Final Portfolio Checklist (Winter 2009)

Due Wed. March 18, 2009

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

In-Class Trig Map / Strike-Dip Exercise

Three Point Problem (Pittsburgh Coal)

Waltham Chapter 5 – Trigonometric Applications to Geologic Problems

Didger Software and Image Processing Tutorial (http://www.wou.edu/las/physci/taylor/g302/didger_4_tutorial.pdf)

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

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

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

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

Waltham Text Triangular Graphs / Rock Composition Problem

Waltham Ternary Plot Exercise (7 plots of petrologic chemistry data)

Application Ternary Diagrams to Sandstone (<http://www.wou.edu/las/physci/taylor/g302/ternary.pdf>)

- QFL Data renormalization / hand plot
- Grapher QFL Diagram

21 Integrated Final Project (http://www.wou.edu/las/physci/taylor/g302/final_project_w07.pdf)

- Task 1
 - 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
 - Hillslope Statistical Summary Data