This last individual assignment asks you to assemble information from various sources. This can include independent searching and reading material from the River Mechanics book, going through your own class notes, looking at the class web page, referring to your field trip notes and report, browsing the web, etc. For this last assignment, the grading will emphasize the quality of your presentation (50%) as much as the technical content (50%).

Write a nicely-presented short essay (min 1 page and max 2 pages per topic) with well-written explanations and possible illustrations on each of the following topics:

**Part #1 (25%)**

When solving the advection-dispersion equation, why is the Leonard Scheme so much preferable to a finite difference scheme that is forward in time and backward in space?

**Part #2 (25%)**

Do urban streams and rivers tend to aggrade or degrade, and why? Can you suggest effective countermeasures?

**Part #3 (25%)**

What is the difference between a sidecasting dredge and a cutterhead dredge? Can you suggest 2-3 useful references or web links?

**Part #4 (25%)**

What do you remember from Dr. Jeff Koseff’s lecture at Hydrology Days? Also reflect on what kind of presentation at HDays was most effective at conveying knowledge to the audience.