THE ROLE OF E-PORTFOLIOS AND ACADEMIC ROADMAPS (i.e., CONCEPT MAPS) IN AN OUTCOME- AND ASSESSMENT-BASED GEOSCIENCE CURRICULUM

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This essay has links to PowerPoint, WORD, and EXCEL files that will be uploaded to the Cutting Edge server. They should be viewed while reading the essay.

The Geosciences Department resides in the College of the Environment and Life Sciences (CELS) of the University of Rhode Island. In the late nineties CELS made a significant commitment to re-align all (ten) majors to outcome-based programs, in which the "assessment cycle" would play a major role. (In retrospect this was a wise commitment, as the State of Rhode Island has since mandated that by 2006 all public education institutions, K-16, must have in place outcome & assessment-based programs.) Towards this end the college, and individual departments, developed rough drafts of outcomes and assessment tools to can be used to evaluate the attainment of those outcomes. I am a member of a small group of faculty and administrators charged with implementing this agenda. Early-on we decided to develop (or buy into) an electronic portfolio system, as a means by which we could efficiently track the assessment component of the new outcomes-based curricula that was emerging within the college. Thus we joined a group of schools using TRUE-OUTCOMES, an electronic portfolio program that manages assessment-based science and engineering curricula. It allows or provides the following things: 1) a way in which students can easily see what materials they need to produce for assessment, as part of the evaluative component of the stated outcomes for their major; 2) a way in which they can upload, digitally, the materials to be assessed as demonstration of achievement of outcomes; 3) and an access to courses, outcomes, and other issues that are relevant to their management of their four-year experience at URI. The PowerPoint presentation covers these and other benefits that accrue from using this program.

The TRUE-OUTCOMES portfolio provides a powerful tool for students and faculty alike to enhance the educational experience. But--from the perspective of an incoming freshman (unsure as to what geology is, let alone whether she thinks she wants to major in it, other than she/he thinks it's neat, based upon a family trip to the western national parks), or an undergraduate science major (thinking about whether he or she should transfer into geology and still graduate on time and get a job/grad school stipend) or a high school senior and his/her parents--it is not overly welcoming. Thus we are developing an Academic Roadmap (or concept map) for current and potential majors in CELS. Our intent is provide to a visually compelling and user-friendly portal to the resources in our college, that will be easily accessible to a clientele that ranges from perspective high applicants (and their often first generation parents) to enrolled students who are trying to decide whether to major in geology, to colleagues who are interested in our geology program, and to other who are interested in geology, what it requires to be professionally viable, and what the relevance is of the various outcomes (and associated assessment instruments) that are embedded in the geology major at URI. Among other things, the academic roadmap will illustrate the relevance of skills (such as those demonstrated in lab field camp reports) to the demonstration of competency in the profession.

The following items will be uploaded to the Cutting Edge Workshop website. They elaborate upon, and elucidate the URI project just described.

- A PowerPoint presentation that covers the evolution of the CELS agenda, in terms of: 1) outcomes- and assessment-based curricula; 2) an E-portfolio to manage it; and 3) an Academic Roadmap to provide the curricula a "heart and soul", that makes it accessible to a broad audience. (CE-DPM OVERVIEW)
- A WORD file that describes the geology department outcomes. There are, currently, 44 geology outcomes, which represent the department's mapping of the college's outcomes onto our major. (CE-DPM OUTCOMES)

- A WORD file that describes which outcomes are addressed by the course's objectives, experiential component, and e-portfolio product; it is keyed by number to the list of 44 outcomes presented in the previous file. (CE-DPM COURSE)

- An EXCEL file that correlates outcomes with geology courses. This "matrix" illustrates the assignment of outcomes to courses. Each of the ~50 geology outcomes will be assessed. That matrix shows which outcomes will be assessed to core courses in the major. The core course numbers (across the top) refer to the following subjects. (CE-DPM MATRIX)

103	Introductory Physical Geology
150	Historical geology
210	Geomorphology
320	Mineralogy and Petrology
370	Structure and Tectonics
450	Sedimentology
483	Hydrology
484	Contaminant Transport
488	Colorado Plateau or California Trip (Capstone Course)

- An EXCEL file that lays out the architecture of the academic roadmap. Note: there are several pages to the file. If you set EXCEL to allow comments, you will get directions about the use of components on each page. (CE-DPM ROADMAP)