The Foundation Coalition
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Newsletter

http://www.foundationcoalition.org

*From **Jeff Froyd**, Project Director*: Although many people are working hard on a wide range of activities, I would like to highlight three Foundation Coalition (FC) activities that might be of special interest to the engineering education community. First, the initial set of concept inventories (http://foundationcoalition.org/concept) that was being developed in 2000–01 is available for faculty members to beta test in their classes. Concept inventories assess conceptual, as opposed to computational, understanding of a particular area of knowledge. They are modeled after the Force Concept Inventory developed by Hestenes and Halloun at Arizona State University. Concept inventories in the areas of electromagnetics, strength of materials, signals and systems, waves, and thermodynamics are, or soon will be, available to test in classes. Don Evans chaired a session devoted to concept inventories at the recent Frontiers in Education Conference. Second, Russ Pimmel and a large faculty team at the University of Alabama have completed a set of modules targeted at skills implied in the EC 2001 Criterion 3 outcomes (http://foundationcoalition.org/ec2000a-k). Faculty members can download and use the modules, which contain instructor guides and materials for students. Third, the FC is also working with the Gateway and SUCCEED coalitions to offer workshops from one, two, or all three coalitions. If faculty members at your institution are interested in hosting one or more workshops, please contact me. More information about the concept inventories, the EC 2001 "a–k" modules, and the workshops are available on the FC Web site.

UPCOMING EVENTS

2 Nov 2001	**FC Workshop at Louisiana Tech University, Ruston** Jim Morgan and Cesar Malave will present "Active/Cooperative Learning: Beyond the Basics."
9 Nov 2001	**FC Workshops at North Dakota State University, Fargo** Rita Caso, Jeff Froyd, and Ann Kenimer will present "Developing Measurable Objectives and Outcomes for Programs and Courses" (http://www.foundationcoalition.org/events/workshops/DevObj.htm) and "Principles for Classroom and Curricular Innovation."
29 Nov 2001	**FC Workshops at Tennessee Technological University, Cookeville** "Active/Cooperative Learning: Introduction and Application," offered by P. K. Imbrie (Purdue U.) and Russ Pimmel (U. of Alabama); "Student Teams in Engineering," offered by Joey Parker (U. of Alabama) and Russ Pimmel; "Technology-Enabled Learning in Engineering," offered by Jeff Froyd (Texas A&M) and David Cordes (U. of Alabama). For more information, e-mail rpimmel@coe.eng.ua.edu.
6 Dec 2001	**FC Workshops at Wright State University, Dayton OH** Jeff Froyd and P. K. Imbrie will offer "An Introduction to Active/Cooperative Learning" and "Technology-Enabled Learning" (e-mail: froyd@tamu.edu).
4 Feb–8 Mar 2002	**Online Workshop: Designing a Successful Online Course** Susan Haag and Leah Sutton (both Arizona State U.) will facilitate this five-week online course that will teach participants to design, develop, and evaluate online courses. For information, go to http://www.eas.asu.edu/elearn/events/dsoc/index.html.
3–5 Mar 2002	**Cross-Coalition Conference**: Share the Future III, Gainesville FL Four engineering education coalitions: SUCCEED, Foundation, Greenfield, and Gateway host a conference featuring over 20 interactive workshops.
March 2002	**FC Classroom Assessment Workshop** will be offered by the Assessment and Evaluation team at Louisiana Tech University.

WORKSHOP FEATURE

Developing an Assessment and Evaluation Plan for EC 2000

Ann Kenimer

Workshop Goals: Participants will

- Gain knowledge about writing program and course objectives and outcomes
- Gain familiarity with various methods for assessment data collection and reporting
- Gain knowledge about appropriate selection and implementation of assessment tools
- Learn about using assessment data for program and course evaluation and enhancement

Participant Background Requirements

- Familiarity with preparation of course syllabi and lessons
- Familiarity with ABET EC2000 is desirable but not necessary

Workshop Topics

- Program and course objectives and outcomes
- Types of assessment methods
- Gathering, processing, reporting, and using data

Workshop Agenda

- Introductions
- Development of objectives and outcomes
- Overview of assessment tools
- Selection and implementation of assessment tools; data analysis and reporting
- Closing the loop—using assessment data in programs and courses

Participants' comments:

"The workshops were very good. And the interpretation of the ABET portfolio was helpful."

"The workshop was excellent. We look forward to another visit after we have time to incorporate some of the strategies."

In this hands-on workshop participants will engage in several activities that help them

- develop their program objectives and outcomes,
- develop their course objectives and outcomes, and
- critique and refine existing assessment tools or develop new (instruments) to meet their needs.

We incorporate collaborative activities (where they work in teams)! The workshop is interesting and relevant!

In this interactive workshop, participants will learn how to develop objectives and outcomes for both courses and programs. Then participants will learn how to tie outcomes to assessment methods and how to make appropriate assessment choices. The workshop has seven objectives:

- Help participants distinguish between Criterion 2 program objectives and Criterion 3 program outcomes. For example, give them sample definitions and see if participants think these are reasonable.
- Help participants understand what student outcomes are, how to develop them, and relate them to the EC2000 Criterion 3 outcomes.
- Help participants develop several measurable performance criteria for each outcome.
- Help participants map outcomes and topics across courses.
- Examine existing classroom assessment methods and tools, in order to prepare a preliminary assessment plan program.
- Help participants look at the various assessment methods that are available and select appropriate method(s) for each outcome.
- Help participants think about how to put selected assessment methods into practice.

Rita Caso