UA Initiative for the Development of Online Programs

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Program Title: CCEM Upper Division Core Cluster Online Program Development

Project Description
The project is developing an online cluster for a block of courses that comprise the upper division core requirements for undergraduates in the Department of Civil Engineering and Engineering Mechanics. These 300 level courses provide the fundamental knowledge for the four main sub-disciplines of Civil Engineering (CE): Hydraulics, Structures, Geotechnical, and Transportation Engineering. The courses, offered once per year, CE 323: Hydraulic Engineering and Design; CE 333: Elementary Structural Analysis; CE 343: Geotechnical Engineering and Design; and CE 363: Transportation Engineering and Pavement Design; are required of all undergraduate Civil Engineering Majors, regardless of area of emphasis.

What was accomplished?
The team has met several times with Melody Buckner, Instructional Design Specialist for Outreach and Global Initiatives at the University of Arizona. Melody showed the team best practices and prototype course formats recently developed. Additionally, one of the team member presented course formats that he had previously set up. Consensus was reached on a consistent format for the course block. Melody worked with the co-PI responsible for CE 323, the only course of the group offered in Spring 2011, to develop a consistent course home page and the online content. The other courses are developing and streamlining their online content. The team has been assigned QM peer reviewers.

Goals
The goal of the project is to create the online course cluster for availability in the 2011-12 academic year. The course will follow the UA/Quality Matters Guidelines and have a consistent appearance, organization and navigation. The course offerings will involve the following five key features: (1) Online course content; (2) Video recorded lectures; (3) Electronic lecture notes; (4) Student Remote Access; (5) Online Student Assessment. The first three features will take advantage of the existing software tools and dedicated technology rooms at UA. The final two will allow the distance student access to group activities and immediate feedback.

Assessment
Assessment for the course cluster will occur in four areas: (1) Impact on existing program; (2) Student performance; (3) Student satisfaction; (4) E-learning teaching effectiveness. Existing program level assessment will be from independently administered registration examinations. Learning levels will be assessed through comparisons between in-class and on-line student performance conducted each semester over 5 years. E-quizzes will be used to evaluate students’ performance based on expected levels of technical competence. Students will be surveyed to obtain feedback. Assessment tools developed with the assistance of OIA will be used to evaluate the effectiveness of the structure and presentation styles. Courses will be modified based on students and faculty feedback.

Future Plans
The team continues to develop content and features in order to have the material for the cluster of courses fully developed, troubleshooting completed and operational by the Fall 2011 semester. Key future steps involve access and availability to dedicated technology rooms, which are seeing higher demand with each semester, issues with hybrid courses, and mechanisms for marketing/outreach to gain the largest audience.

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