

CALL TO PARTICIPATE MISSOURI COURSE REDESIGN INITIATIVE

The Governor of Missouri and Missouri's public four-year institutions invite participation in a new statewide initiative to redesign large-enrollment, multi-section undergraduate courses using technology-supported active learning strategies. The goal is to achieve improvements in learning outcomes as well as reductions in instructional costs. During the period 2011-2013, the program expects to support one project at each participating campus.

The goals of the program are to

- Adopt new ways to improve student learning outcomes
- Demonstrate these improvements through rigorous assessment
- Reduce institutional costs
- Increase consistency across multiple-section courses
- Free up instructional resources to be used for other purposes
- Develop the internal capacity of Missouri's faculty and staff to continue the redesign process

Orientation Workshop*

An orientation workshop will be held on February 18, 2011, from 10 am to 4 pm in Columbia, MO. This orientation will feature Dr. Carol A. Twigg, President and CEO of the National Center for Academic Transformation (NCAT) and architect of the successful large-scale national and state-based course redesign programs on which the Missouri initiative is based. The purpose of this session is to provide all interested members of the university community the opportunity to learn about the program and why you may want to participate.

*Attendance at an orientation workshop is required in order to be eligible to submit a project proposal. Those who choose to submit a proposal are also required to attend a follow-up workshop on April 8, 2011.

BACKGROUND

Public higher education in Missouri, as throughout the nation, continues to be challenged by the need to increase access, to improve the quality of student learning, and to control or reduce rising costs. These issues are, of course, inter-related. As tuition costs continue to rise, access may be curtailed for those least able to afford education. Promises to increase access ring hollow when high percentages of students fail to graduate. The solutions to these challenges appear to be inter-related as well. Historically, improving quality or increasing access has meant increasing costs, while reducing costs has generally meant reducing both quality and/or access. To sustain its vitality while serving a growing and increasingly diverse student body, higher education must find a way to resolve these familiar trade-offs among quality, cost and access.

Many colleges and universities, including those in Missouri, have adopted exciting new ways of infusing technology to enhance the teaching and learning process and to extend access to new populations of students. But Missouri institutions, like most, have not fully

harnessed the potential of technology to improve the quality of student learning, increase retention and reduce the costs of instruction in courses that have the broadest impact.

A New Approach

Since April 1999, the National Center for Academic Transformation (NCAT) has managed a number of programs in course redesign that demonstrate how colleges and universities can redesign their instructional approaches using technology to achieve quality enhancements as well as cost savings. In the seminal Program in Course Redesign (PCR), 30 institutions were selected from hundreds of applicants in a national competition to participate. Each institution redesigned one large-enrollment course to increase quality while simultaneously reducing instructional costs through the use of technology. These 30 institutions represent research universities, comprehensive universities, private colleges, and community colleges in all regions of the United States.

The first redesign projects focused on large enrollment, introductory courses. As an initial target, these courses have the potential of generating large cost savings and having significant impact on student success. Studies have shown that undergraduate enrollments in the United States are highly concentrated in introductory courses. On average, nationally, at the baccalaureate level, the 25 largest courses generate about 35% of student enrollment. At the community college level, the 25 largest courses generate about 50% of enrollment. In addition, successful completion of these courses is key to student progress toward a degree. High failure rates in these courses--typically 15% at research universities, 30-40% at comprehensives, and 50-60% at community colleges--can lead to significant drop-out rates between the first and second years of enrollment.

NCAT required each of the 30 institutions participating in the PCR to conduct a rigorous evaluation focused on learning outcomes as measured by student performance and achievement. National assessment experts provided consultation and oversight regarding the assessment of learning outcomes to maximize validity and reliability.

The findings of the PCR show:

- 25 of the 30 redesigns improved learning; the remaining 5 redesigns showed learning outcomes equivalent to traditional formats;
- Of the 24 projects that measured retention, 18 resulted in reductions in drop-failure-withdrawal (DFW) rates; and,
- All 30 projects reduced the cost of instruction--by 37% on average, with a range of 15% to 77%.

Other outcomes achieved included improved student attitudes toward the subject matter and increased student satisfaction with the mode of instruction.

While each of the 30 institutions within the PCR had complete freedom as to how they would redesign their course to increase quality and reduce costs, a number of common elements emerged:

1. *Whole course redesign.* In each case, the whole course--rather than a single class or section--is redesigned. Faculty members begin by analyzing the time that each person involved in the course spends on each kind of activity. This analysis often reveals

duplication of effort. By sharing responsibility for both course development and course delivery, faculty members save substantial time and achieve greater course consistency.

2. *Active learning.* All of the redesign projects make the teaching-learning enterprise significantly more active and learner-centered. Lectures are replaced with a variety of learning resources that move students from a passive, note-taking role to active learning. As one math professor put it, “Students learn math by doing math, not by listening to someone talk about doing math.”

3. *Computer-based learning resources.* Instructional software and other Web-based learning resources assume an important role in engaging students with course content. Resources include tutorials, exercises and low-stakes quizzes that provide frequent practice, feedback, and reinforcement of course concepts.

4. *Mastery learning.* The redesign projects offer students more flexibility, but the redesigned courses are not self-paced. Student pace and progress are organized by the need to master specific learning objectives--often in a modular format, according to scheduled milestones for completion--rather than by class meeting times.

5. *On-demand help.* An expanded support system enables students to receive assistance from a variety of people. Helping students feel that they are a part of a learning community is critical to persistence, learning and satisfaction. Many projects replace lecture time with individual and small-group activities that meet in computer labs--staffed by faculty, graduate teaching assistants (GTAs) and/or peer tutors--or online, thus providing students more one-on-one assistance.

6. *Alternative staffing.* Various instructional personnel--in addition to highly trained, expert faculty--constitute the student's support system. Not all tasks associated with a course require a faculty member's time. By replacing expensive labor (faculty and graduate students) with relatively inexpensive labor (undergraduate peer mentors and course assistants) where appropriate, the projects increase the number of hours during which students can access help and free faculty to concentrate on academic rather than logistical tasks.

NCAT has now worked with more than 150 institutions to redesign large-enrollment courses at all levels of the undergraduate curriculum. Learning outcomes improved in 72 percent of the redesigns with the remaining 28 percent producing learning equivalent to traditional formats. On average, costs were reduced by 37 percent in redesigned courses with a range of 9--77 percent. Based on the experiences of the participating institutions, NCAT has identified six redesign models that represent different points on the continuum from a fully face-to-face course to a fully online course. NCAT has also established a number of proven approaches to assessing student learning as well as a variety of strategies to overcome potential implementation obstacles.

What does “cost savings” mean in practice?

It is important to understand the context for reducing costs. In the past cost reduction in higher education has meant loss of jobs, but that's not the NCAT approach. In the vast majority of NCAT course redesign projects, the cost savings achieved through the redesigned courses remained in the department that generated them, and the savings achieved were used for instructional purposes. NCAT thinks of cost savings as a

reallocation of resources that allows faculty and their institutions to achieve their “wish lists”—what they would like to do if they had additional resources.

Institutional participants have used cost savings in the following ways:

- offering additional or new courses that previously could not be offered;
- satisfying unmet student demand by serving more students on the same resource base;
- breaking up “academic bottlenecks”—courses that delay forward progress of students within a subject area or program because they are oversubscribed
- increasing faculty release time for research, renewal or additional course development; and,
- combinations of these.

Further information about NCAT, the PCR results and other NCAT course redesign programs are available at www.theNCAT.org.

THE MISSOURI PROGRAM

Missouri’s public four-year institutions, in partnership with NCAT, will build on the successful models and lessons learned from NCAT’s national and state programs to create a course redesign program within Missouri’s four-year institutions for multi-section, large-enrollment courses. The Missouri program will engage with NCAT to support an initial course redesign project, which will enable us to develop internal capacity to support this process on an ongoing basis throughout the state.

Program Focus: Large-Enrollment, Undergraduate Courses

In order to have maximum impact on student learning and achieve the highest possible return on the Missouri’s investment, redesign efforts supported by this program will focus specifically on undergraduate courses with high enrollments. In addition to having an impact on large numbers of students, there are other advantages of such a focus. In many large-enrollment courses, the predominant instructional model is the large lecture. While recognizing the limitations of the lecture method, many departments continue to organize courses in this way because they believe that it represents the most cost-effective way to deal with large numbers of students. The program will demonstrate that alternatives that improve quality and are less costly than lecture-based strategies are possible.

In addition, many large-enrollment courses are introductory. These introductory courses are good prospects for technology-enhanced redesign because they have a more or less standardized curriculum and outcomes that can be more easily delineated. They also serve as foundation studies for future majors. Successful learning experiences in these courses will influence students to persist in key disciplines like the sciences. Finally, because these courses are feeders to other disciplines, success in them will help students make the transition to more advanced study.

TO LEARN MORE ABOUT THE PROGRAM

To learn more about this exciting new initiative, plan to participate in the initial orientation session to be held on February 18, 2011, from 10 am to 4 pm in Columbia, MO. Dr.

Carol A. Twigg, NCAT's president and CEO, and Dr. Carolyn Jarmon, NCAT's vice president, will provide an overview of the successful planning methodology used in NCAT's redesign programs and the results they achieved. The workshop is open to all members of the university community who want to learn about the program and why you may want to participate.

The goal of this workshop is for participants to acquire a solid understanding of what is needed to implement a good redesign. Through presentations, case studies, and group work, participants will learn the basic planning steps as well as how to adapt NCAT's redesign methodology to the needs of their particular institution.

Workshop topics will include:

- *Institutional and Course Readiness*. Includes a self-assessment of institutional readiness and a discussion of how to choose appropriate courses for redesign.
- *Planning for Assessment*. Provides guidance about how to assess the impact of course redesign on student learning.
- *Planning for Course Redesign*. Provides an overview of the Center's Course Planning Tool that facilitates the quality and cost planning tasks associated with redesign.
- *Developing a Cost Savings Plan*. Discusses how resources can be saved through redesign and what can be done with the savings.
- *Case studies in redesign*. Engages participants in an interactive application of course redesign models to institutional cases.

The outcome of the workshop will be that participants will learn that there are many ways to redesign a course to achieve quality improvements and cost savings and that what can be achieved is only limited by one's creativity.

IMPORTANT: Representation at the orientation workshop is required in order for an academic unit to be eligible to submit a project proposal.

Homework

Participants will be expected to have completed the following assigned reading about course redesign prior to the workshop. Click on the titles to access the links.

- [Improving Learning and Reducing Costs: New Models for Online Learning](#)
An article by Carol A. Twigg that includes a full description of multiple course redesign models with examples.
- [Five Principles of Successful Course Redesign](#)
A summary of the redesign techniques that are essential to improving student learning while reducing instructional costs.
- [Missouri Course Redesign Initiative Application Guidelines](#)
How to apply to participate in the Missouri Course Redesign Initiative. Please pay particular attention to Stage Two: Identifying the Course.

Who should attend?

All institutions interested in submitting a grant proposal for this program must attend this workshop and the follow-up workshop scheduled for April 8, 2011. However, participants who attend the workshop are not required to submit a proposal.

We recommend that each institution select representatives from a number of academic areas that might be interested in participating in the program—i.e., we think it would be a good idea not to decide which course to redesign at this early stage but rather make that decision after the orientation workshop. Participants may be faculty, professional staff and/or campus administrators. The workshop will help each institution decide which course is the most “ready” to be redesigned.

Registration (Deadline is February 11, 2011)

Send an email to Rhonda Turner at turnerrh@umsystem.edu:

1. Subject line: “Registration for Course Redesign Workshop”
2. Please include the following information:
 - Your name and title
 - Academic unit and university
 - Phone and email
3. You may register multiple attendees from the same academic unit in a single email; please include phone and email for each attendee.

Location

The workshop will be held at:

[Hilton Garden Inn Columbia](#)

3300 Vandiver Drive

Columbia, Missouri 65202

Tel: 1-573-814-5464

A block of rooms are reserved under “Missouri Course Redesign Workshop (NCAT).” The room rate is \$99. **The deadline for booking rooms is January 17, 2011.**

FOR MORE INFORMATION

For more information about the orientation workshop, the Missouri Course Redesign Initiative or NCAT, please contact:

- Your campus provost/chief academic officer.
- Christa Weisbrook, Faculty Fellow, UM System, (573) 882-0001, chris@umsystem.edu.
- Carolyn Jarmon, NCAT Vice President, (518) 695-5320, cjarmon@theNCAT.org.