

CALL TO PARTICIPATE

**Minnesota State Colleges and Universities System
Designed for Learning
A Program for Redesigning Large-Enrollment Courses**
(This document and related resources can be found at
<http://www.ctl.mnscu.edu/programs/special-initiatives/dfi/index.html>)

OVERVIEW

The Minnesota State Colleges & Universities Office of the Chancellor invites participation in a new systemwide pilot focused on the redesign of large-enrollment, multi-section courses using technology-supported active learning strategies to achieve improvements in learning outcomes as well as cost savings. During the 2005-2006 academic year, the program expects to award 5 grants with awards ranging between \$15,000 and \$20,000. Depending on the success of the initial pilot, the program expects to award 20 or more matching grants with awards ranging between \$15,000 and \$20,000 in the future.

The goals of the program are to simultaneously

- Adopt new ways to improve student learning outcomes
- Demonstrate these improvements through rigorous assessment
- Increase the internal capacity of System faculty and staff to assess learning outcomes in systematic and comparable ways
- Increase consistency across multiple-section courses
- Free up instructional resources to be used for other purposes within the department or program
- Develop the internal capacity of System faculty and staff to continue the redesign process

BACKGROUND

Public higher education in Minnesota, 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 in many ways. For example, if increased instructional costs result in increased tuition costs, then access may be curtailed for those least able to afford education. Or if the quality of education is compromised by ill-conceived cost containment measures or poorly-considered extension of access, then the promises of increased access become hollow. Fortunately, 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 generally meant reducing both quality and/or access. In order 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 have adopted exciting new ways of infusing technology to enhance the teaching and learning process and to extend access to new populations of students. Our own colleges and universities have been widely recognized for our successes in applying technology to improve access to higher education throughout Minnesota and to students across the country and the globe. The technology-supported approaches we have followed to improve access have not compromised instructional quality and have often been less expensive than non-technological approaches to increasing access that involved new facilities or substantially increased travel. But the Minnesota State Colleges and Universities, like most institutions, 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. This project will focus on courses that have large enrollment across multiple sections and which are required courses in programs of strategic importance, or which are required foundation courses for students planning to enroll in such programs.

A NEW APPROACH

Since April 1999, the National Center for Academic Transformation (NCAT) has managed the Program in Course Redesign (PCR). Its purpose is to demonstrate how colleges and universities can redesign their instructional approaches using technology to achieve quality enhancements as well as cost savings. Thirty 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 percent of student enrollment. At the community college level, the 25 largest courses generate about 50 percent 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 redesign resulted 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. The redesigns addressed the entire course, not just a single class session. They emphasized active learning through greater student engagement with the material and other students. Learning activities emphasized practice, feedback and reinforcement. Interactive software was heavily used – individually and in teams. Online learning resources were available 24/7. On-demand individualized personal assistance was provided. Differences in student learning styles were accommodated. Course management software helped monitor student performance to support mastery learning. And there was differentiated use of personnel rather than relying on a single faculty member to individually do everything associated with delivering a course.

From the initial 30 projects, NCAT has identified five different models for applying these elements. The five models 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 all 30 PCR 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.

Using cost savings

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.

The Minnesota State Colleges and Universities System will follow the same approach and allow any savings generated through the redesign projects to remain in the department or program that generated them.

Further information about NCAT and the PCR results are available at www.theNCAT.org.

THE DESIGNED FOR LEARNING PROGRAM

The Minnesota State Colleges and Universities System's Designed for Learning program, in partnership with NCAT, will build on the successful models and lessons learned from the national PCR to create a course redesign program within the system for multi-section, large-enrollment courses. The Designed for Learning 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 system.

The Designed for Learning project is expected to extend systemwide achievements derived from several initiatives over the past 5-10 years, including projects such as those supported by the Archibald Bush Foundation (i.e., Learning by Doing, Learning That Lasts) and the Minnesota Online e-Curriculum program.

The project can also support and feed into other current Minnesota State Colleges and Universities initiatives, such as:

- Assessment of student learning outcomes (AQIP, NCA/HLC Accreditation)
- Systemwide discipline workshops, transfer meetings (integrating faculty effort between institutions and across institutional types)
- FIPSE-supported project on "Quality Matters" <http://www.qualitymatters.org>
- (ELECT group of Early Childhood Educators working across 13 institutions)
- Centers of Excellence
- Systemwide D2L use and learning object creation, and other use of Web and Internet technologies to support learning approaches and options for students
- Serving students from traditionally underserved communities

Faculty applying are encouraged to articulate how their proposal fits, or is aligned with, any of these or other systemwide strategic initiatives.

Program Focus: Large-Enrollment Courses

In order to have maximum impact on student learning and achieve the highest possible return on the system's investment, redesign efforts supported by this grant program will focus specifically on courses with high enrollments. Studies have shown that undergraduate enrollments are concentrated in relatively few academic areas. At the community college level, about 50 percent of student enrollment is concentrated in just 25 courses. Those same 25 courses generate about 35 percent of enrollment at the baccalaureate level.

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 them will influence students to persist in key disciplines like the sciences. Finally, because those courses are feeders to other disciplines, success in them will help students make the transition to more advanced study.

Specifically, the Minnesota State Colleges and Universities Designed for Learning pilot program is choosing to focus on courses that can address the project's goals for:

- Solving teaching and learning problems
- Using a range of new learning approaches and technologies to support students' success
- Freeing up instructional resources to be used for other purposes within the department or program
- Systemwide applicability or scope
- Replicability (in other sections and at other institutions)
- Timeliness (can be completed in pilot timeframe)

Eligibility Criteria

- Initial applicants must be fully committed to completely redesigning and delivering a large enrollment course currently offered at a system institution.
- Large enrollment courses may be courses with very large sections (e.g., traditional lecture courses) or courses that offer large numbers of smaller sections. In all cases, more than one person should be involved in teaching the course.
- Applicant teams may be from a single institution or campus or from multiple institutions or campuses that offer the same course.

Selection Criteria

- Selection of the initial projects will be made by a Designed for Learning advisory committee of System faculty and staff in consultation with the National Center for Academic Transformation.
- In addition to selecting projects that are likely to succeed, the Designed for Learning program will attempt to work with a variety of campus types using different redesign approaches.
- Projects must demonstrate departmental and institution-level commitment
- Projects must engage teams of faculty
- Preference will be given to foundation courses that act as "feeder courses" to a variety of disciplines.
- Improved learning outcomes will be weighted more heavily than cost savings

To Learn More about the Program

A workshop on course redesign approaches, open to all interested faculty and administrators, will be held on October 14 at Minneapolis Community and Technical College, and made available after that date to all campuses via streaming video on the CTL Web site. The purpose of this session is to provide all interested members of the system the opportunity to learn about the program and why you may want to participate. This workshop will feature Dr. Carolyn Jarmon, Senior Associate at the National Center for Academic Transformation and a leader of the successful large-scale national course redesign program on which the initiative is based. Dr. Jarmon will provide an overview of the successful planning methodology used in the PCR and the results it achieved. You will also learn more about the reasons for the success of the Program in Course Redesign and how you can think about using these ideas.

All institutions interested in submitting a grant proposal for this program must attend this workshop and the follow-up workshop scheduled for January 27, 2006. However, participants who attend the workshop are not required to submit a proposal.

GRANT APPLICATION PROCESS

Faculty and administrators involved in the PCR have repeatedly indicated that understanding the planning methodology is the key to the effectiveness of the process. And once learned, the methodology is easily transferable to other courses and disciplines. The high level of success achieved by the PCR can also be attributed to selecting initial participants who were ready to succeed, teaching them the methodology and actively supporting them as they developed their design plans. In the Minnesota State Colleges and Universities program, we will replicate this process by engaging with NCAT to provide prospective applicants with a variety of planning resources drawn from the PCR through a series of workshops and consultations. Prospective applicants will be supported directly by The Minnesota State Colleges and Universities staff throughout the process.

The program will employ an eight-stage application process:

Stage One: Learning How to Redesign

Faculty, administrators, and staff from all Minnesota State Colleges and Universities institutions will be invited to attend a one-day workshop, "Learning How to Redesign," conducted by the National Center for Academic Transformation in partnership with the Center for Teaching and Learning. 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 the 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 Resource Reallocation Plan.* Discusses how resources can be saved through redesign and what can be done with the savings.

Participants will be expected to have completed some assigned reading about course redesign prior to the workshop and to have discussed some redesign possibilities with colleagues.

Stage Two: Establishing Institutional Teams

Institutions interested in submitting proposals will establish *institutional teams* to undertake large-enrollment course redesigns. These teams should include the following people:

- *Faculty Experts.* Course redesign requires that faculty experts explicitly identify the course's desired learning outcomes and agree on course content. Large-enrollment courses typically include more than one faculty member. To insure course consistency, these faculty experts must work together on the redesign, resolving any differences in how the course will be offered, and collaboratively plan the most effective way to accomplish the redesign goals.
- *Administrators.* Because these redesigns impact multiple sections, large numbers of students as well as academic policies and practices, it is important to involve academic administrators on the team. The level of these administrators will depend on the organization and size of the institution. For some it will be the Academic Vice President or designee; for others it will be a dean or department chair. These team members can play an important role when institutional issues such as changes in scheduling or the use of classroom space arise. If unexpected implementation issues arise in the process of redesign implementation, administrators can help the team resolve them quickly and effectively across institutional offices.
- *Technology Professionals.* These team members provide expertise in the use of information technology so that the redesign goals are accomplished in ways that make the technology as easy for students to use as possible. Technology professionals can contribute ideas about how to increase interaction with content as well as with other students. They can also suggest design approaches to ensure that the technology does not limit students' learning options.
- *Assessment Experts.* NCAT will suggest straightforward methods to enable student learning in the redesigned course to be compared to that of the traditional course. It is, however, useful to include someone who is knowledgeable about assessment and research design on the team, particularly if the institution seeks to measure additional facets of the redesign such as performance in downstream courses or student satisfaction, to name a few. This

expertise may be found in departments of education or psychology or in office of institutional research.

Stage Three: Identifying the Course

Some courses may be more ready than others to be the focus of a large-scale redesign effort. Because of prior experiences with technology-mediated teaching and learning, and because of numerous attitudinal factors, some faculty members may be more ready to engage in large-scale redesign efforts to achieve the program's goals.

Those institutions interested in participating in the redesign program will be asked to think carefully about which courses are good candidates for redesign at their institution and to respond to the following Course Readiness Criteria:

- Will changes in the course have a high impact on the curriculum?
- Are decisions about curriculum in the department, program, or school made collectively--in other words, beyond the individual faculty member level?
- Are the faculty able and willing to incorporate existing curricular materials in order to focus work on redesign issues rather than materials creation?
- Do a substantial number of the institution's faculty members have an understanding of and some experience with integrating elements of computer-based instruction into existing courses?
- Have the course's expected learning outcomes and a system for measuring their achievement been identified?
- Do the faculty members involved have an understanding of learning theory?
- Is there a recognition on the campus that large-scale course redesign using information technology involves a partnership among faculty, IT staff and administrators in both planning and execution?

Institutions will be asked to send a brief narrative addressing each of the course readiness criteria as they apply to the selected course, focusing on evidence that demonstrates the way in which they meet each criterion.

Institutional responses to the Course Readiness Criteria should not exceed seven pages and should be submitted electronically to Richard.Brown@so.mnscu.edu.

Deadline for submission: December 2, 2005

Stage Four: Planning for Redesign

Based on their responses to the Course Readiness Criteria, institutional teams will be invited to participate in a second one-day workshop, "Developing the Proposal," conducted by the National Center for Academic Transformation on **January 27, 2006**.

This workshop will provide an in-depth understanding of the redesign process with emphasis on selecting an appropriate redesign model, determining how the redesign model will embody key pedagogical principles, planning for cost savings, assessing student learning outcomes, and developing a budget for the redesign project. Participants will learn how to use the Center's Course Planning Tool, a spreadsheet-

based tool that enables teams to analyze the activities and costs of both the traditional course and the redesigned course in such a way as to improve student learning while reducing instructional costs.

Workshop participants will be the core team members who will implement the redesign project if funded. The workshop will also give participants an opportunity to share ideas, to obtain feedback from program staff, and to assess the quality of their proposal ideas in relation to others.

Stage Five: Developing Final Project Plans and Grant Proposals

Institutions that participate in the January workshop will be invited to submit a final project plan and grant proposal. Staff from the National Center for Academic Transformation will work with The Minnesota State Colleges and Universities system staff to provide individualized assistance as prospective grant recipients prepare their proposals. Institutions will be encouraged to submit drafts of their plans for review and feedback before the final submission.

Final proposals should include the following sections:

Abstract

Following a title page, write a one-page abstract. The abstract should conform to the following format:

- Paragraph 1 – summarize the current (traditional) course including numbers of students enrolled.
- Paragraph 2 – summarize the academic problem that you are addressing.
- Paragraph 3 – summarize the planned course redesign.
- Paragraph 4 – summarize how the redesign will enhance quality.
- Paragraph 5 – summarize how you will assess the impact of course redesign on learning.
- Paragraph 6 – summarize how the redesign will produce cost savings and what you intend to do with the savings.

(For sample abstracts, please see the PCR project descriptions at http://www.theNCAT.org/Course_Redesign/Project.htm)

Application Narrative

- Select a redesign model and explain why you chose it and how you intend to embody the Five Principles of Successful Course Redesign within it.
- Describe the learning materials you intend to use.
- Select and describe a cost reduction strategy. Explain why you chose it and what you will do with the savings.
- Include a brief timeline for your redesign project. You must plan to conduct a pilot during the fall 2005 term and a full implementation during the spring 2006 term.

Tools and Forms: Available at <http://www.ctl.mnscu.edu/programs/special-initiatives/index.html> after October 1, 2005.

- Complete the Assessment Forms (2) for the pilot and full implementation of your redesign project.
- Complete the Course Planning Tool (CPT) and the Course Structure Form (CSF). Provide a brief narrative that explains the entries in the Course Planning Tool where necessary.
- Additional information regarding the final evaluation tool, suggested narrative structure, format requirements and the budget form will be posted to the web site.

Proposals should be submitted electronically to ctl@so.mnscu.edu.

Proposal Submission Deadline: **March 24, 2006.**

A program selection committee made up of faculty and staff from the The Minnesota State Colleges and Universities community in consultation with NCAT will review the final proposals. In addition to selecting projects that are likely to succeed and to have the highest impact, the The Minnesota State Colleges and Universities program will attempt to work in a variety of disciplines and campus types using varying approaches to the redesigned courses. During the 2005-2006 academic year, the The Minnesota State Colleges and Universities pilot program expects to award 3-5 grants with awards ranging between \$15,000 and \$20,000.

Award decisions will be made by April 1, 2006 so that campuses can begin work in the summer.

Stage Six: Planning and Developing the Pilot

Institutional teams will be expected to engage in focused on-campus planning during the spring and summer of 2006. They will complete redesign preparations, finalize project teams, complete redesign activities, modify existing course materials when necessary, and incorporate additional content into course materials.

Stage Seven: Piloting the Redesign

During fall 2006, campuses will conduct pilot implementations of their course redesigns. Teams will collect initial assessment data that compares student learning outcomes in the traditional course with those in the redesigned format. Teams will make adjustments in the course materials and organization, if needed, in preparation for a full implementation in spring 2007 term.

Stage Eight: Implementing the Full Redesign

In spring 2007, institutional teams will fully implement their course redesigns and collect data on comparative student learning outcomes and on final instructional costs.

TIMELINE

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|-------------------------|-------------------------------------------------------------------------------|
| August 23, 2005 | Form advisory committee |
| September 15, 2005 | Issue Call to Participate and Application Guidelines |
| October 14, 2005 | Workshop #1 |
| December 2, 2005 | Deadline for submitting Course Readiness Instrument |
| January 27, 2006 | Workshop #2 |
| February –March 2006 | Teams develop project proposals |
| March 24, 2006 | Teams submit final proposals to The Minnesota State Colleges and Universities |
| April 7, 2006 | Awards announced |
| April 2006 – July 2006 | Campus planning and development |

More information about the Designed for Learning Program can be found at <http://www.ctl.mnscu.edu/programs/special-initiatives/index.html>

You may also contact Richard Brown at Richard.Brown@so.mnscu.edu or 651-649-5773.