

Changing the Equation: Redesigning Developmental Math Application Guidelines

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The Program: *Changing the Equation*

With support from the Bill & Melinda Gates Foundation, the National Center for Academic Transformation (NCAT) will conduct a major program to engage the nation's community colleges in a successful redesign of their remedial/developmental math sequences (i.e., all mathematics courses offered at the institution prior to the first college-level math course.) The goal of this new redesign program is to improve student learning outcomes in remedial/developmental math while reducing costs for both students and institutions using NCAT's proven redesign methodology.

Institutions will be selected to participate in the program through a competitive application process. In order to be considered for acceptance into the program, institutions must send a minimum of one faculty member and one academic administrator to the Redesign Alliance Fourth Annual Conference to be held March 28-30, 2010 in Orlando, FL. This conference will provide an extensive orientation to NCAT's model of course redesign. (The early-bird registration deadline is February 26, 2010.)

Following the conference, interested teams will submit responses to a set of criteria to assess their readiness to undertake a large-scale redesign. NCAT will then bring teams from 50 institutions that have demonstrated their readiness to participate in the program together with NCAT staff and six Redesign Scholars to engage in a series of planning tasks. Teams will be introduced to the NCAT redesign methodology, learn about strategies and techniques for successful course redesign and receive guidance in how to develop plans for course redesigns on their home campuses.

Based on the quality of their redesign proposals, a sub-set of these 50 institutions will be selected to receive a \$40,000 grant to support the implementation of their redesigns. Those institutions will be expected to pilot their redesign plans in spring 2011 and fully implement their plans in fall 2011.

Background

A major obstacle for students who are pursuing degrees or credentials in community colleges is successfully completing the college mathematics requirement. Unfortunately, that frequently means completing both remedial and/or developmental math courses as well as college-level math courses. A 2004 study by the U.S. Department of Education found that over 60% of community-college students needed remediation. Students lacking in the competencies and skills required to enroll in college-level courses face significant challenges persisting to a degree. Successful completion rates in community colleges for remedial and developmental math courses rarely move beyond 50% and are often less than that. Completing a series of non-credit courses to overcome deficiencies involves significant time and money for students, slowing academic progress and sometimes derailing the momentum that comes with initial enrollment in postsecondary education.

NCAT has ten years of experience in conducting large-scale course redesign programs that improve learning while reducing costs. Developmental math redesigns at NCAT partner institutions have

- increased the percentage of students successfully completing a developmental math course by 51% on average (ranging from 10% to 135%),
- reduced the cost of instruction by 30% on average (ranging from 12% to 52%), and

- impacted ~10,000 students annually.

For example, at Cleveland State Community College the number of students passing a developmental math course increased by 29% while the cost of offering developmental math was reduced by 20%. At Jackson State Community College, the number of students passing a developmental math course increased by 44% while the cost of offering developmental math was reduced by 20%. This new program will scale such successes to additional institutions.

In addition to measuring course completion rates and cost reduction, all NCAT redesign projects compare student learning outcomes in the traditional format with those achieved in the redesigned format. This is done by 1) running parallel sections of the course in the two formats or 2) comparing baseline data from a traditional course to a later offering of the redesigned course, looking at differences in outcomes in the "before and after." Techniques used to assess student learning include comparing the results of common final examinations, comparing common questions or items embedded in examinations or assignments, comparing pre/post-tests and comparing final grades when the same assignments, tests and final exams are used and graded using the same criteria. Student learning gains as expressed in increased percentage points have averaged 14 points per project (ranging from 4 to 38 points.)

All successful math redesign projects share six best-practice characteristics:

- *Whole course redesign.* In each case, the whole course rather than a single class or section is the target of redesign. In contrast to traditional courses where each instructor typically does his or her own thing, redesigned courses are consistent in content, in coverage, in assessment and in pedagogy across all sections of the course.
- *Active learning.* The projects make teaching and learning more learner-centered, moving students from a passive, "note-taking" role to one of active-learning. Students spend the bulk of their course time doing math problems. As one math professor has put it so well, "Students learn math by doing math, not by listening to someone talk about doing math."
- *Computer-based learning resources.* Instructional software packages such as MyMathLab, ALEKS or Hawkes Learning Systems--which include interactive tutorials, computational exercises, videos, practice exercises and online quizzes--play a central role in engaging students with course content. Students spend more time on task than when they simply watch or listen to a lecture given by an instructor in a traditional format. Students find the software easy to use and achieve a comfort level with the technology in a short amount of time. They especially like the instant feedback they receive when working problems and the guided solutions that are available when they do not get a correct answer. Instructional software packages also support auditory, visual and discovery-based learning styles.
- *Mastery learning.* Student pacing and progress are organized by the need to master specific learning objectives according to scheduled milestones for completion. In contrast to the lockstep pacing of a traditional format, students spend more time on things they don't understand and less time on things they have already mastered. When students understand the material, they can move quickly through it and demonstrate mastery. When they get stuck, they can ask for an example or a step-by-step explanation and take more time to practice.

- *On-demand help.* Requiring students be part of the learning community is critical to persistence, learning, and satisfaction. Projects replace lectures with individual and small-group activities that take place in computer labs or in classrooms, enabling students to have more one-on-one assistance from faculty, teaching assistants and peers. Students get assistance when they encounter problems in doing math.
- *Alternate staffing.* In contrast to traditional lecture formats where individualized assistance is difficult to provide, students find help in labs where instructors, tutors and/or peers are available to provide on-demand assistance when students encounter difficulties. Any problem areas that students encounter are addressed on an individual basis during lab time. Students also get help from fellow students. Computer stations are often arranged in pods of four to six to encourage student collaboration.

Modularization: A Key Strategy

NCAT has learned that the combination of a modularized curriculum (rather than a course-based curriculum) and a mastery-based learning strategy (rather than “you get it or you don’t and, if you don’t, you start over”) is critical to increasing success in developmental mathematics.

Most community colleges offer a series of remedial and developmental courses taught primarily in traditional classroom settings in a semester or quarter format. Weaker students may be required to complete up to three or four full terms of coursework prior to advancing into regular college-level courses. Further, the course delivery strategy does not allow students to get up to an acceptable performance level in one stage so that they can quickly move onto the next stage. Students are required to take an entire course even though they may only be deficient in a portion of the topics. All students are required to learn at the same pace and with the same instructional strategies as the entire class.

Because learning in these skills-based courses occurs in specific increments and the time required to master each increment varies from person to person, a course-based system lacks the flexibility that can lead to greater student success. Thus, an important feature of each redesign conducted as part of *Changing the Equation* will be to allow students to start anywhere in the developmental course sequence based on their learning needs. Students will progress through content modules at a faster pace if possible or at a slower pace if necessary, spending the amount of time needed to master the module content.

The development of better placement systems combined with shorter, more tailored remedial/developmental modules will enable students to save time and money by only enrolling in the remedial/developmental modules that address their deficiencies. By modularizing the remedial/developmental math curriculum to provide for efficiencies in meeting requirements, both the student and the institution will benefit.

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 NCAT projects, the cost savings achieved through the redesigned courses remain in the department that generates them, and the savings achieved are 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.

Program Methodology: How *Changing the Equation* Will Work

From working with large numbers of students, faculty and institutions over the past 10 years, NCAT has learned what works and what does not work in improving student achievement in developmental mathematics. The underlying principle is simple: Students learn math by doing math, not by listening to someone talk about doing math. Interactive computer software combined with personalized, on-demand assistance and mandatory student participation are the key elements of success. NCAT calls this model for success, the Emporium Model, named after what the model’s originator, Virginia Tech, called its initial course redesign.

The Emporium Model has been implemented in various ways. Some institutions have large computer labs; others have small computer labs. At some institutions, students spend a required number of hours in the lab at any time that the lab is open. At other institutions, instructors meet with students in the lab or in a classroom at scheduled hours. Each institution makes design decisions in the context of the constraints it faces. What is critical is the focus on using interactive computer software combined with personalized, on-demand assistance.

The purpose of *Changing the Equation* is to scale a proven innovation to additional community colleges. The high level of success achieved in NCAT’s course redesign programs can be attributed to selecting participants who are ready to succeed, teaching them the planning methodology, including data collection and assessment strategies, and actively supporting them as they develop and implement their redesign plans. Faculty and administrators involved in NCAT’s course redesign programs have repeatedly indicated that understanding the planning methodology is the key to the success of their redesigns. And once learned, the methodology is easily transferable to other courses. In *Changing the Equation*, we will replicate this process by providing prospective participants with a variety of planning resources through a series of workshops and consultations. Prospective participants will be supported directly by NCAT staff and NCAT Redesign Scholars throughout the process.

NCAT’s Redesign Planning Resources

Based on our experience with and analysis of multiple course redesign projects, we know that some pedagogical techniques used in the redesigns consistently lead to better student learning whereas others have no impact on student learning. We also know that some redesign techniques consistently lead to reduced instructional cost with no loss of quality whereas others have no impact on cost reduction. NCAT has identified successful course redesign models and four ways of assessing student learning; assembled descriptive lists of techniques and strategies with examples from the successful course redesign projects along with good ideas that cross disciplinary boundaries; and produced explanations of why an institution might choose one versus another or how it might mix and match among them. Rather than starting their redesigns from scratch, new institutions will be able to choose from among these redesign planning resources to construct their redesign plans.

NCAT's Redesign Scholars in Mathematics

Since November 2006, NCAT has conducted a Redesign Scholars Program to enable faculty and administrators experienced in course redesign to serve as a resource for inexperienced colleges and universities. Initially, 19 Redesign Scholars were selected in four academic areas (humanities; mathematics, statistics, computer science; natural sciences; and, social sciences) and included both faculty members and administrative staff who were experienced and knowledgeable about how to implement large-scale course redesigns that improve student learning while reducing instructional costs. We have chosen the “best of the best” to serve as consultants to new institutions for the life of this project and beyond.

In *Changing the Equation*, six Redesign Scholars in mathematics will be available to mentor participating community colleges via telephone and email throughout the redesign process. In addition, each institution will receive resources to invite Redesign Scholars to their campus for consultations and workshops. Site visits will focus on issues of curriculum and pedagogy, administrative matters, assessment and evaluation efforts, and implementation progress.

Grant Application Process

Institutions will be selected to participate in the program through a competitive application process, which will consist of three-stages:

- The first stage will enable prospective participants to learn about NCAT's redesign methodology.
- The second stage will identify 50 institutions that are ready to engage in large-scale redesign.
- The third stage will select a minimum of 25 institutions from among those 50 to receive redesign grants.

Stage 1: Learn About NCAT's Redesign Process

The purpose of *Changing the Equation* is not further experimentation but rather to scale a proven innovation. A first step in the application process is to be sure that those institutions interested in applying to the program are familiar with what NCAT means by course redesign in mathematics.

- Background Reading

To decide whether to participate in the program, institutions should review NCAT's summary of successes achieved in redesigning developmental math at multiple institutions. This web page includes summary data about the successes achieved, case studies of individual community college redesign projects, biographies of NCAT Redesign Scholars in math, articles describing what makes the Emporium Model so successful and FAQs that discuss what is involved in establishing an emporium.

- Redesign Alliance Fourth Annual Conference, March 28 – 30, 2010

NCAT's approach to redesigning developmental mathematics may be unfamiliar to some institutions. The best way to become convinced that NCAT's methodology will work at all institutions is to engage with the pioneering practitioners who have successfully improved student performance while reducing instructional costs. The conference brings together those

practitioners from across the United States and offers an excellent opportunity to learn from them what works and what doesn't, what their experiences have been, what their mistakes were and how they might be avoided, and so on. The conference also provides a convenient way to interact with all of the major instructional software providers in mathematics.

In order to be considered for acceptance into the program, institutions must send a minimum of one faculty member in mathematics and one academic administrator to the Redesign Alliance Fourth Annual Conference to be held March 28-30, 2010 in Orlando, FL, which will provide an extensive introduction to NCAT's model of course redesign. An orientation to *Changing the Equation* will be held from 1:00 – 3:00 pm on Sunday, March 28 immediately preceding the opening of the conference.

To register, go to <http://www.thencat.org/RedesignAlliance/Conference10.htm>. Select *Changing the Equation* to receive a discounted registration rate of \$400. **(To receive the early-bird registration rate of \$300, register by February 26, 2010.)** Institutions may send as many members of their institutional teams (described below) as they choose to the conference at this discounted rate. Be sure to also register for the *Changing the Equation* Orientation during the registration process.

NOTE: Institutions are not required to participate in the March 2010 conference (although they are strongly encouraged to do so) if they have already participated in one of the following events prior to December 1, 2009:

- The Third Annual Redesign Alliance Conference, March 2009, Orlando, FL.
- Increasing Student Success in Developmental Math Workshop, October or November 2009, Nashville, TN.
- A day-long campus visit to Cleveland State Community College, Jackson State Community College, The University of Alabama, the University of Idaho or Louisiana State University.
- The Mississippi Community and Junior Colleges Orientation to Course Redesign Workshop, May 2009, Jackson, MS.
- A day-long workshop on their home campus conducted by any of the Redesign Scholars in math.
- A Colleagues Committed to Redesign (C2R) pilot implementation in 2007, 2008 or 2009.

Institutions that wish to apply to *Changing the Equation* and have participated in any of these events should complete this [form](#) describing that participation. Send one electronic copy of the completed form to Pat Bartscherer, NCAT Program Manager, patb@theNCAT.org, by March 1, 2010.

- Preliminary Readiness Responses

A part of the application process described below will be to complete responses to a series of readiness criteria. Because the timeframe between the conference (March 28 – 30) and the readiness response deadline (April 15) is short, we strongly suggest that teams begin work on those responses as soon as possible, come to the conference with a draft in hand, and revise that draft based on what they learn at the conference.

Stage 2: Identify 50 Teams Ready to Redesign

In the second stage of the application process prospective participants will create redesign teams and respond to a set of readiness criteria. Fifty institutions will be selected from among

those that submit responses to the readiness criteria and will be invited to move on to the next stage of the application process by participating in a May 2010 planning workshop.

- Create Institutional Teams

Each campus that is interested in participating in the program should establish a course redesign team who will undertake the redesign of the remedial/developmental math sequence. These teams should include the following people:

Faculty Experts. Course redesign requires that faculty experts explicitly identify desired learning outcomes and agree on course content. Remedial and developmental courses are typically taught in multiple sections by different instructors. To ensure course consistency and eliminate course drift, these faculty experts must work together on the redesign, resolving any differences in how modularized courses 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 chief academic officer or designee; for others it will be a dean or department chair. These team members play an important role when institutional issues such as changes in scheduling, registrarial and financial aid matters 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 so that the redesign goals are accomplished in ways that make the technology as easy for students to use as possible. Technology professionals contribute ideas about how to increase interaction with content as well as with other students. They also suggest design approaches to ensure that the technology does not limit students' learning options.

Assessment Experts. NCAT will suggest straightforward methods to compare student learning in the redesigned course sequences to that of the traditional course sequences. 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 offices of institutional research.

The redesign team will undertake a self-assessment process in which they analyze the courses they plan to redesign. They will assemble baseline data on student learning, course completion rates and the cost of offering the course in its traditional format in order to document their starting point in the project prior to the redesign of the course sequence.

- Establish Campus Readiness to Participate

Campuses that wish to propose a redesign project must assess and demonstrate their readiness to participate in the program. NCAT has established a set of readiness criteria (see below) that will be used to pre-qualify prospective participants. Completing the readiness criteria also enables each institution to assess collectively its strengths and weaknesses, gaining an

understanding of what it needs to do to address gaps in its preparation early in the process. No institution perfectly meets all of the readiness criteria; every institution will discover things it needs to work on in order to carry out a successful course redesign. Answering each as honestly as possible—and providing data to support the answers—should be the goal.

As noted above, *Changing the Equation* will require all interested institutions to establish a redesign team because of the multiple dimensions involved in large-scale course redesign. The first activity of the team should be to complete the responses to the readiness criteria. In some cases, the team will be asked to read a short article, discuss the reading as a team and make a tentative decision, which may change as the team learns more about the redesign process.

Fifty institutions will be selected from among those that submit responses to the readiness criteria and will be invited to move on to the next stage of the application process by participating in a May 2010 planning workshop. This workshop will give participants an overview of the redesign process with emphasis on pedagogical design, planning for cost savings and assessing results. A minimum of three persons from each institution will be expected to participate.

Deadline for submission of responses to readiness criteria: April 15, 2010

Stage 3: Develop a Final Redesign Plan

Fifty institutions that are invited to move forward will develop a plan to pilot their redesign plan during spring 2011 and fully implement their redesign during fall 2011. Participants will be supported as they develop and implement their redesign plans through a May 2010 planning workshop that will teach participants how to use NCAT's redesign planning resources and through individualized consultations with Redesign Scholars and NCAT staff.

- Planning Workshop, May 21, 2010

Three-person teams from each institution will participate with six Redesign Scholars and NCAT staff in a planning workshop on May 21, 2010. (Institutions may send a fourth person if they so desire.) The workshop will work with participants to help them develop their redesign plans using NCAT's methodology. The workshop will also give participants an opportunity to share ideas and experiences and to obtain feedback from NCAT staff and from the Redesign Scholars.

- Final Redesign Plan (due August 1, 2010)

Following the May workshop, each campus team will develop a final redesign plan. NCAT staff and the Redesign Scholars will provide individualized consultation and assistance as new institutional participants prepare their redesign plans. Institutions will be encouraged to submit drafts of their plans for review and feedback before the final submission. Redesign plans will describe the goals of the redesign, the choices made from among NCAT's menu of redesign planning resources, how those choices will enable the institution to meet its redesign goals, how the institution intends to draw on the Redesign Scholars and how the institution will evaluate the outcomes of the redesign.

Deadline for submission of redesign plans: August 1, 2010

- Grant Awards

Award decisions will be made by August 15, 2010.

Application Information

Eligibility Criteria

Regionally accredited, associate-degree granting institutions are eligible to apply, including public, independent non-profit and for-profit institutions. Regionally accredited, associate-degree granting two-year branch campuses of four-year institutions are eligible to apply, including public, independent non-profit and for-profit institutions. Four-year institutions are not eligible to apply.

Companies are not eligible to apply, but institutions are encouraged to partner with companies--such as instructional software producers, publishers, course management system producers, and instructional technology outsourcers--where appropriate to their redesign projects.

Readiness Criteria

As noted above, *Changing the Equation* will require interested institutions to establish a redesign team because of the multiple dimensions involved in large-scale course redesign. The first activity of the team should be to complete the responses to the following readiness criteria. In some cases, the team will be asked to read an article, discuss the reading as a team and make a tentative decision, which may change as the team learns more about the redesign process.

Then the campus chief academic officer should send a brief narrative (no more than six single-spaced pages) on behalf of the team addressing each of the six readiness criteria listed below, focusing on evidence that supports each response.

1. Course Sequence

What impact will redesigning the remedial/developmental course sequence have on the curriculum, on students and on the institution—i.e., why do you want to redesign this course sequence? Is there an academic problem in this sequence such as a high failure rate? Do the courses face a resource problem such as how to meet increased enrollment demand with no commensurate increase in resources? Please be specific—i.e., provide enrollment numbers, describe how the courses are currently structured (how many sections of each course do you offer? how many students are in each section?), include baseline data on pass rates and/or costs, and so on.

2. Redesign Model

When you develop your redesign plan, you will be asked to base it on NCAT's prior successful redesigns in math, all of which use a variation of the Emporium Model. Please read "[Math Lectures: An Oxymoron?](#)," "[How to Structure a Math Emporium: Advice from NCAT's Redesign Scholars](#)," "[Increasing Success in Developmental Math: Following the NCAT Playbook](#)" and "[Increasing Success in Developmental Math: SMART Math at Jackson State Community College](#)." At this point in the planning process, how would you implement the Emporium Model on your campus? What possible constraints may impact your implementation?

3. Assessment Plan

Successful redesign efforts begin by identifying the intended learning outcomes and developing alternative methods other than lecture/presentation for achieving them. When you develop your redesign plan, you will be asked to select an assessment model. Please read “Four Models for Assessing Student Learning,” available at http://www.thencat.org/PlanRes/R2R_ModAssess.htm, which describes four possible models. At this point in the planning process, which assessment model do you think would be most appropriate for your redesign? Why? Have you identified each course’s expected/intended learning outcomes in detail? How do you plan to collect baseline data and compare it to student learning outcomes after you have redesigned the course sequence?

4. Cost Savings Plan

When you develop your redesign plan, you will be asked to select a cost reduction strategy. Please read “Cost Reduction Strategies,” available at http://www.thencat.org/Mathematics/CTE/CTECost_Reduction_Strategies.htm, which describes a number of strategies for producing cost savings. At this point in the planning process, which cost savings strategy do you think would be most appropriate for your redesign? Why? How would you reallocate the resources saved?

5. Learning Materials

Successful course redesign that improves student learning while reducing instructional costs is heavily dependent upon high-quality, interactive learning materials. Are the participating faculty members able and willing to incorporate existing curricular materials in order to focus work on redesign issues rather than materials creation? Are they willing to partner with content providers such as commercial software producers or other colleges and universities who have developed technology-based materials? What learning materials are you thinking about using in your redesign?

6. Departmental Support

A collective commitment is a key factor for the success and the sustainability of redesign projects. Are the faculty ready to collaborate? Have they engaged in joint conversations about the need for change? Are decisions about curriculum in the department made collectively--in other words, beyond the individual faculty member level? Will the department agree to let a subset of the faculty try a new approach? If remedial/developmental studies is in a department separate from the math department, what is the level of cooperation between the two?

Please send one electronic copy of the completed readiness responses and cover page to Pat Bartscherer, NCAT Program Manager, patb@theNCAT.org. Also, print and fax a signed copy of the cover page to Pat’s attention at 518-695-5633.

Deadlines for submission of readiness responses: April 15, 2010.

Grant Implementation Process

Institutional teams will be expected to engage in focused on-campus planning during fall 2010. They will complete redesign preparations, finalize project teams, train faculty and staff, complete redesign activities, modify existing course materials when necessary, and incorporate additional content into course materials.

Spring 2011 Redesign Pilots

During spring 2011, campuses will conduct pilot implementations of their course redesigns. A pilot involves testing the redesign idea, including most if not all of the important quality improvement and cost savings characteristics of the planned redesign, with a sub-set of students enrolled in the course. Enrollment in the pilot section(s) needs to be large enough so the redesign team can learn what problems students are likely to face and how to resolve these prior to scaling up to full implementation in all sections of the course. The pilot period provides an opportunity for the redesign team to uncover technology issues or any problems with newly designed assignments or activities that might emerge. For some institutions, the pilot term also provides a time to collect consistent data on student learning from both traditional and redesign sections that can be compared when consistent historical data are not available. For many institutions, the pilot has provided a time to make sure that important audiences both on and off campus have been informed of changes in the course and to be sure that all potential “bumps in the road” have been smoothed. Overall, a pilot provides the redesign team with a “dress rehearsal” of the redesigned course and an opportunity to resolve any issues that may arise.

Teams will collect initial assessment data that compares student learning outcomes in the traditional course sequence with those in the redesigned format. Teams will submit regular progress reports using a consistent format to allow comparison among schools.

Mid-Course Sharing Workshop

After the first round of campus pilots has been completed, NCAT will conduct a one-day, face-to-face workshop that will provide a forum for teams to share their experiences and learn from one another. Teams from all institutions will share their initial findings regarding learning and retention outcomes, cost containment and implementation issues. Teams will receive feedback from the group as well as from NCAT staff and NCAT Redesign Scholars.

Fall 2011 Redesign Full Implementations

During fall 2011, teams will fully implement their original redesign plans, after making any needed modifications and adjustments. Teams will collect data on comparative student learning outcomes and actual instructional costs and will continue to submit regular progress reports.

Assessing the Results Workshop

Following the fall 2011 term, NCAT will conduct a one-day, face-to-face workshop that will provide a forum for teams to share their experiences and learn from one another. Teams from all institutions will share their data regarding learning and retention outcomes, cost reduction and plans for sustainability. Teams will receive feedback from the group as well as from NCAT staff and NCAT Redesign Scholars.

Program Dissemination

Throughout the project, NCAT and the Redesign Scholars will be alert for lessons learned, resources developed, promising ideas implemented, problems addressed. NCAT will distribute ideas and examples to participating institutions and the higher education community through NCAT's quarterly electronic newsletter, *The Learning MarketSpace*, and through the NCAT web site. NCAT will also communicate with individual campuses to share specific ideas gathered from consultations (both formal site visits and informal consultations) with the participating institutions as a means of addressing continuing problems and strengthening practice.

To have your name added to NCAT's electronic mailing list, which ensures that you receive periodic updates and information about this new effort, subscribe to *The Learning MarketSpace*, NCAT's quarterly newsletter, at <http://www.thencat.org/subscribe.htm>.

Summary Timeline

December 2009	<i>Changing the Equation</i> competition announced
January – March 2010	Establish campus teams Prepare draft readiness response prior to conference
March 28 – 30, 2010	Participate in Redesign Alliance Annual Conference
April 15, 2010	Readiness response deadline
April 30, 2010	50 institutional teams selected to move forward
May 21, 2010	Planning Workshop for 50 institutional teams
August 1, 2010	Teams submit final course redesign plans
August 15, 2010	Grants awarded
Fall 2010	Campus planning and development
Spring 2011	Pilot redesign projects
Summer 2011	Assess the pilot results and revise plans if needed Mid-Course sharing workshop
Fall 2011	Campus full implementations
January - February 2012	Teams evaluate final implementations
March 2012	Assessing the Results Workshop

For more information, please call 518-695-5320 or email info@theNCAT.org.

About NCAT

The National Center for Academic Transformation (NCAT) is an independent, not-for-profit organization dedicated to the effective use of information technology to improve student learning outcomes and reduce costs in higher education. NCAT provides expertise and support to institutions and organizations seeking proven methods for providing more students with the education they need to prosper in today's economy. NCAT is headed by Dr. Carol A. Twigg, an internationally recognized expert in the field. The NCAT staff has extensive experience in higher education as faculty members, administrators and researchers in both traditional and non-traditional higher education environments. For more information, see www.theNCAT.org.

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