The National Center for Academic Transformation

Experts in improving learning and reducing cost in higher education.

HOW TO ORGANIZE A COLLEGE-WIDE COURSE REDESIGN USING NCAT'S METHODOLOGY

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Introduction

From working with large numbers of students, faculty, and institutions since 1999, the National Center for Academic Transformation (NCAT) has learned what works and what does not work in improving student achievement while reducing instructional costs in undergraduate college courses. We call that process *course redesign*.

What does NCAT mean by *course redesign*? Course redesign is the process of redesigning whole courses—rather than individual classes or sections—to achieve better learning outcomes at lower costs by taking advantage of the capabilities of information technology.

The pedagogical techniques leading to greater student success and the cost reduction techniques leading to more-productive learning environments are equally applicable to all disciplines: mathematics, social science, humanities, natural science, and professional studies; to both introductory and advanced-level courses; to on-campus and distance-learning courses; to small, medium-size, and large institutions, both two year and four year; and to both traditional-age and working-adult students.

This how-to guide is designed for those of you who want to develop a campus-wide course redesign *program* as a lever to improve learning and reduce costs at your institution. What do we mean by a program? A course redesign program is organized like the grant programs offered by both public agencies and private foundations. A course redesign program is public—meaning, easily accessible to and understandable by all campus constituencies. It includes clear and specific goals, a detailed timeline with deadlines and expected activities, the number of grants to be awarded, the monetary amounts of the grants, and selection criteria.

Course redesign programs are organized in rounds, and the rounds are repeated until all campus redesign goals have been achieved. The primary goal of the initial round, described in this guide, is to produce good models that are supported by data that can serve as proof of the possibility of improving learning while reducing costs and will inspire others at the institution to engage in further course redesign.

The guide makes two basic assumptions.

- We assume that your institution faces:
  - ✓ Academic problems such as poor student performance, poor completion rates, or lack of consistency among sections of the course
  - ✓ Financial problems such as budget cuts, the need to serve more students on your current resource base, or difficulty in finding qualified full-time and/or adjunct faculty
  - ✓ Perhaps both

- We also assume you have heard about course redesign and its spectacular record of proven success. NCAT and its partner colleges and universities have initiated 195 redesign projects, 80 percent of which were completed.
  - ✓ Of the 156 completed projects, 72 percent improved student learning outcomes and 28 percent showed learning equivalent to traditional formats.
  - ✓ Of the 156 completed projects, 153 reduced their costs by 34 percent on average (ranging from 4 percent to 81 percent).

- ✓ Institutions participating in Changing the Equation, an NCAT program focused on developmental math at community colleges, reduced their costs by 20 percent on average; all other redesigns reduced their costs by 37 percent on average.
- ✓ Collectively, the 253 courses that have been redesigned enroll about 250,000 students annually.

Other positive outcomes include increased course-completion rates, improved retention, better student attitudes toward the subject matter, and increased student and faculty satisfaction with the new mode of instruction.

This guide is *not* a stand-alone resource. It *must* be used in tandem with other NCAT how-to guides that focus on the specifics of course redesign and answer a lot of the how-to questions that arise during the course redesign process. For most academic areas, you should read How to Redesign a College Course Using NCAT's Methodology, which describes how to redesign a *single* course in any academic area other than mathematics. Two other guides focus on math: How to Redesign a College-Level or Developmental Math Course Using the Emporium Model, which describes how to redesign all sections of a *single* math course at both the developmental and college levels, and How to Redesign a Developmental Math Program Using the Emporium Model, which describes how to redesign an entire developmental math *sequence* rather than a single course. Although there is substantial overlap between the latter two guides, there are also substantial differences.

We at NCAT could not have produced this guide by ourselves. The guide represents a compendium of the good ideas created and the actions taken by hundreds of faculty and administrators working on these issues since 1999. We particularly want to thank those colleagues who graciously took the time to review the guide, assuring us where we went right and correcting us where we went wrong.

In developing this guide, NCAT has the goal of helping you produce the kinds of results our organization has achieved in its national, state, and system-based programs: strong, sustainable course redesigns that increase student learning and reduce instructional costs. NCAT's record of success is the reason the 2006 Commission on the Future of Higher Education, also known as the Spellings Commission, made the following recommendation:

> We urge states and institutions to establish course redesign programs using technology-based, learner-centered principles drawing upon the innovative work already being done by organizations such as the National Center for Academic Transformation.

In the coming pages, we tell you how to replicate that success.

I. The Critical Components of a Successful Course Redesign Program

Since 1999, NCAT has worked with hundreds of colleges and universities in their efforts to produce successful course redesigns. From that experience, we have learned what works and what does not work in redesigning individual courses as well as in launching successful campus-wide course redesign programs. That experience forms the basis of the redesign methodology we have developed. When our partners follow that methodology, the projects and programs achieve their goals. When partners do not, the projects and programs do not achieve their goals. We have learned from both our successes and our failures, and our goal in this guide is to share that knowledge with you.

The reason NCAT has achieved such strong results in its course redesign work is that we run *programs* with specific characteristics based on what we have learned in working with large numbers of institutions, faculty members, administrators, and students. We establish clear, high expectations of program participants, and we follow up to make sure they meet those expectations. Course redesign requires institutions to do a number of things they have never done before and to address an issue—reducing costs—that few have seriously expected them to address. Clarity and consistency of approach are crucial in order to produce successful course redesign projects.

We regard course redesign as a means to an end: the transformation of the campus community's understanding of the relationship between quality and cost. 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. But most institutions have not fully harnessed the potential of technology to improve the quality of student learning, to increase retention, and to reduce the cost of instruction. NCAT offers persuasive data that show how course redesign using information technology can offer a broad solution to higher education's historical cost/quality trade-off. Specifically, NCAT's redesign methodology can address higher education's primary challenges: enhancing quality, improving completion rates, expanding access, and increasing institutional capacity.

NCAT's approach to developing and implementing a course redesign program relies on five key components:

- Organize a public program with clear and specific goals
- Take a "funnel" approach
- Provide resources and support for participants
- Use a competitive process
- Require accountability

Later in this guide, we provide more specifics about each stage of the successful process we have designed (e.g., timelines, workshops, materials), but first, we want to focus your attention on the main components of a course redesign program's structure.

Organize a Public Program with Clear and Specific Goals

Institutions of higher education are familiar with grant programs offered by both public agencies and private foundations. The NCAT approach has some similarities to those programs in that we give the initiative a name: (The Pew Program in Course Redesign, The Roadmap to Redesign, The Missouri Course Redesign Initiative, Changing the Equation, and so on.) We

issue a Call to Participate and a set of Application Guidelines that include clear and specific goals, a detailed program timeline with deadlines and expected activities, selection criteria, and so on. We award grants to support the redesign activity. The initiatives are public—meaning, easily accessible to and understandable by all campus constituencies. We put things in writing and expect participants to do the same.

Most campuses that undertake an initiative of some kind related to the academic program tend to forgo one or more of the aforementioned actions. They typically try to preselect suitable candidates either through their own knowledge of the campus or via in-office (backroom) discussions and deals. The goals of the initiative are generally vague ("Use technology" or "Improve teaching and learning"), the timeline is virtually nonexistent, and usually, nothing is written down.

Offering an organized program sends the message that campus leadership is serious about improving learning and reducing costs, and it encourages the campus community to respond in a meaningful way.

Take a "Funnel" Approach

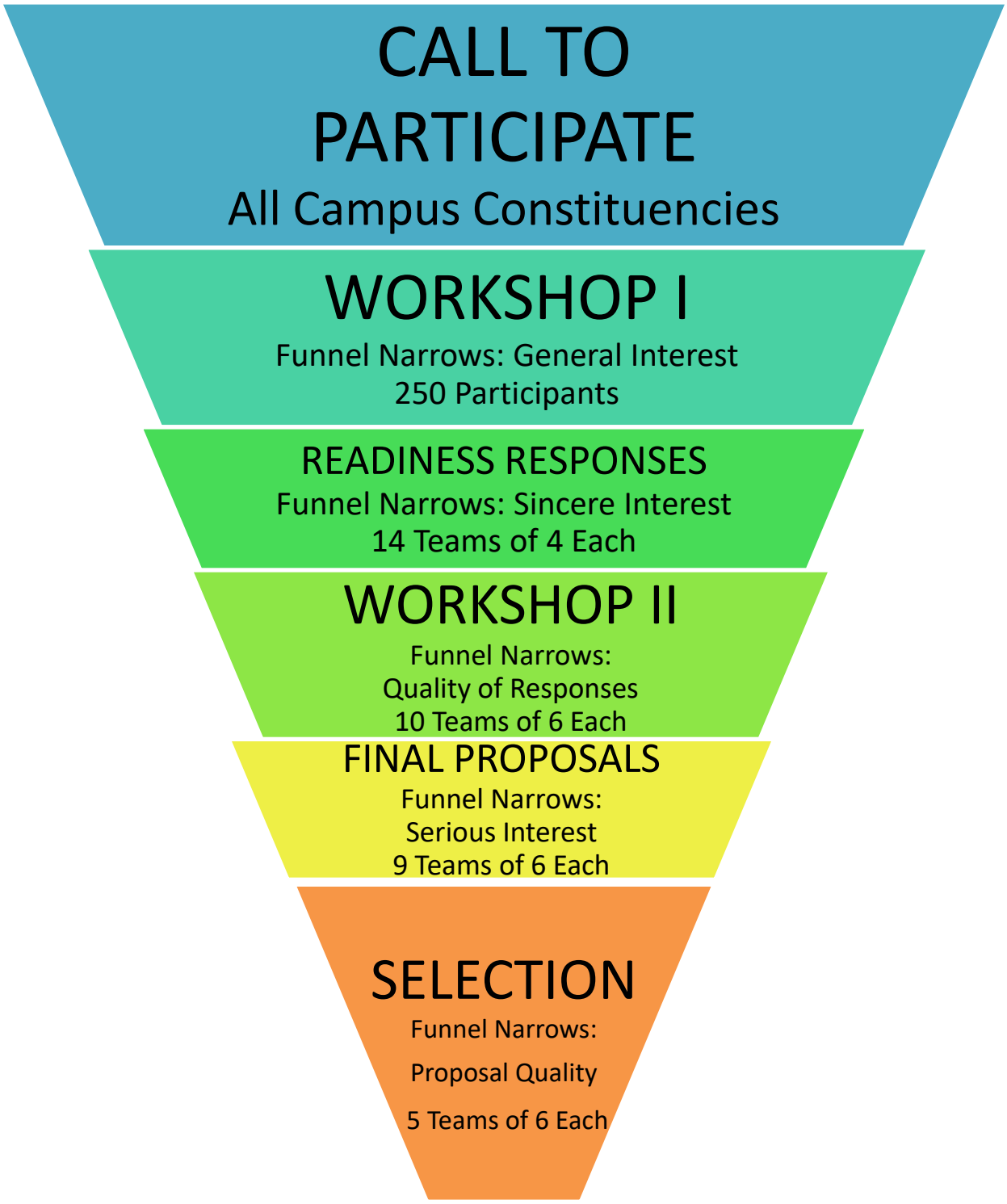
What do we mean by a *funnel approach*? In the early stages of the program—the top of the funnel—we try to engage as many faculty members, administrators, staff and external constituencies as possible. Program announcements are sent to that wide audience to make them aware of the program. The goal is to develop significant interest in and understanding of the value of course redesign on campus. We expose as many members of the campus community as we can to the concept of course redesign, even though not all of them will ultimately participate directly in a redesign project. The point is to change the conversation about what is possible—that one can reduce costs while simultaneously increasing or maintaining quality—and to teach as many people as we can about certain strategies that address both simultaneously. The more folks who know about or are involved in the program in some way, the greater the receptivity to scaling course redesign throughout the campus once successful models have been developed. We want the campus community to understand that students will flourish by using technology appropriately in any course or discipline. Successful projects demonstrate conclusively that the combination of learner-centered principles and the appropriate use of information technology is a primary factor in increasing student success and reducing instructional cost.

In the next stage of the program process—the middle of the funnel—we require prospective participants to complete a series of tasks to demonstrate their seriousness of purpose, their understanding of and compatibility with the program's goals, and their ability to initiate and complete a successful course redesign. By judging how well applicants perform those tasks, we narrow the funnel.

At the bottom of the funnel, the tasks become more specific and demanding, resulting in detailed course redesign plans that meet the program's goals.

As the funnel narrows, we keep those from the top of the funnel informed about the process. Again, the more folks who are knowledgeable about the program in some way, the greater the receptivity to scaling course redesign throughout the campus once successful models have been developed.

THE NCAT FUNNEL



Provide Resources and Support for Participants

NCAT organizes its programs with the assumption that most members of the higher education community do not know how to engage in course redesign; that is, they do not know how to improve student learning while reducing instructional costs. To do so, they need resources and support. Our process is one of teaching and learning. Throughout the process we offer workshops and individualized consulting sessions to help program participants understand NCAT's strategies for quality enhancement and cost reduction. Once teams participate in the workshops, they become much more prepared to formulate their own strategies for both quality enhancement and cost reduction. Prior to a workshop experience, it is difficult for most faculty and staff to imagine how to approach the issues simply by referring to NCAT's website—even though the website has an abundance of resources and examples. The workshops are key in providing (1) examples, (2) organizing principles, (3) a national perspective, and (4) lots of opportunities for discussion.

In addition to the kinds of resources and support described earlier that support redesign projects, we recommend providing financial resources in the form of grant awards. It is amazing how hard people will work if they are rewarded for their efforts in the form of a grant. The grant doesn't have to be large. The grant dangles a carrot to incent faculty members and others to participate in a new endeavor. And the public awarding of grants sends a message to the campus community that the effort is an important one and deserves recognition. Grants are typically spent on two things: (1) faculty released time to enable a subset of full-time faculty to focus on planning and implementing the redesign and (2) expansion or improvement of the campus technological infrastructure to meet new demands as the volume of student engagement inevitably increases.

Use a Competitive Process

Every NCAT course redesign program has relied on a competition to enable the strongest projects to emerge. If there is no competition, the "funnel" will be narrowed from the outset. Just like other grant programs, NCAT programs involve a competitive process to select participants. Application Guidelines are developed that fully describe the program and establish clear criteria for selection. The idea is to establish an atmosphere of competition so that individual departments will strive to be selected to participate in the program. Establishing a competition also conveys the message that the program is highly valued.

NCAT funds only proposals that meet the criteria of improving student learning for all students in the course while simultaneously reducing instructional costs. The program is open to everyone on campus, but applicants must qualify before moving forward in the application process. Applicants respond to a series of readiness criteria to determine whether they are prepared to engage in course redesign. Those who successfully respond to the criteria, the semifinalists, engage in further tasks before submitting a final proposal. Thus, by following this competitive process until the desired number of projects has been produced, we gradually weed out those who are unprepared to mount a successful project.

Require Accountability

NCAT course redesign programs have an excellent record of success for a variety of reasons. All of the characteristics discussed previously contribute to that record, but the fifth one—requiring accountability—is probably the most important. We strongly believe in offering carrots in the forms of grants, support and resources that will entice faculty and staff to achieve

something that has seldom been achieved before: increase student learning while reducing instructional costs. But we also believe in sticks.

What do we mean by *sticks*? First, we establish rules for participating in the program—and we enforce them (e.g., redesign the whole course, improve learning, reduce cost, use technology). We require up-front, detailed planning. We carefully monitor and follow up with all projects during the implementation phase, and we intervene if the redesign plans are not being followed. We collect data on learning outcomes, course completion rates, and cost reduction at three stages: during proposal development, after the pilot term of implementation, and after the first term of full implementation. We require both informal and formal progress reports, the latter occurring after the pilot term of implementation and after the first term of full implementation. Informal reporting can occur on campus via scheduled face-to-face meetings and/or via e-mail. Prior to awarding a grant, we ask recipients to sign a formal grant agreement. Finally, if a project fails to carry out its redesign plan, we take the grant money back unless the circumstances are beyond the project's ability to control. Carrots and sticks—both are important in conducting a successful program in course redesign.

Q: Wouldn't it be easier to preselect one or two courses that we think would be successful rather than mounting a full program?

A: Even though preselecting courses to redesign might be easier, there are two compelling reasons not to do so. First, you lose the benefits of the funnel approach, which enables lots of people to learn about the concept of course redesign even if for various reasons they do not actually redesign a course. It is hard to overstate the importance of developing campus-wide awareness of course redesign throughout the process. The more people who are involved at each stage, the likelier the prospect of future growth and sustainability. Second, because course redesign is a new activity, it is difficult to predict accurately who will and will not come forward with a good idea. The program application process will help each institution decide which courses are the most ready for redesign. Program leaders can encourage certain departments to become involved either informally or formally as part of the selection criteria of the program. In addition, because it is so important to produce good models of course redesign in the initial round—to convince the campus that it is possible to increase learning while reducing costs and to develop course redesign leaders who can help others in subsequent rounds—you want to be able to choose among final proposals to ensure that you get the strongest result.

Q: What are some of the consequences of not having a competition?

A: Two things are affected: quality of participation and quality of proposals. Without a competition, participants receive the message that they will get a grant regardless of whether they participate in the process and regardless of the quality of that participation.

With a competition, everyone who engages in the process fully participates in all parts of the process, completes all tasks, and fully responds to our queries. A decision not to have a competition invariably produces comparatively weak responses at each stage because in the belief that the outcome is predetermined, teams do not take the process seriously.

If you do not hold a competition, we guarantee that you will spend more time and effort on the program and will enjoy far weaker results than you would if you held a competition. If you do not hold a competition, program participants will receive the message that they will be funded whether or not they meet the program's expectations. And again, if you do not hold a

competition, there will be differences at all stages of the process: differences in attendance at workshops, formation of teams, seriousness of readiness responses, and proposal quality.

II. Assessing Institutional Readiness to Redesign

Before beginning a course redesign program, most institutions have found it extremely useful to think through their readiness to engage in the endeavor. An institution has two categories of issues to consider when assessing its readiness to undertake a course redesign initiative: level of institutional support for the redesign program and available resources to support the redesign program. Conducting a successful redesign program requires that both institutional support and needed resources be in place before the program begins.

Assess the Level of Campus Support

Do you have sufficient support on campus to initiate a redesign program? If not, you need to develop a plan to secure that support before beginning to plan and develop a redesign program.

- *Faculty Support.* You need to identify the academic and/or resource problem(s) that course redesign can correct. You need to clearly specify the problem and gather data that supports the need for change—such as student pass rates for the past several years or lack of consistency among sections. The question then becomes, do all faculty members in departments with courses likely to be redesigned understand the nature and extent of the problem? Even though many of the course redesign teams that have worked with NCAT believed at first that the scope of their identified problem and the need to solve it were well-known among their peers, they subsequently learned that others did not share that understanding. That's why you must make sure that all department members are aware of the problem and supportive of the need to correct it. Most faculty members are not familiar with NCAT's course redesign methodology and will need assistance in understanding it.

- *Administrative Support.* Do academic administrators (department chairs, deans, vice presidents, provosts, presidents) understand the nature and extent of the problem you are trying to correct? Have they seen the data? Even though many administrators do understand the scope of the problem the course faces (indeed, it may be the administration itself that initiates a redesign program), others, surprisingly, do not have that understanding and will need to be informed. Most administrators are unfamiliar with NCAT's course redesign methodology and will also need assistance in understanding it. Administrative issues will have to be dealt with throughout the redesign process, and campus resources will be needed; consequently, having solid administrative support is extremely important to the success of the redesign. In addition, administrators may have to step in to support the redesign effort when colleagues or other departments or divisions question the redesigns. And senior administrators must be prepared to provide that support.

- *Unionized Campuses.* Faculty unions strive to ensure that faculty members work in a secure and productive working environment with a reasonable workload. On some campuses, work rules may seem to be obstacles to redesign. Because one of the goals of course redesign is to reduce instructional costs, unions sometimes conclude that faculty will automatically lose jobs or be required to carry heavier workloads. NCAT has successfully worked with institutions in many states that have faculty unions, including Massachusetts, New Jersey, and New York. The campus administration and those initiating the redesign need to take into account the specific union contract under which the redesign will occur.

  NCAT's Scope of Effort Worksheet (see Appendix D of How to Redesign a College Course Using NCAT's Methodology) has been designed to help campuses document that the number of hours faculty devote to each redesigned course will be the same as or fewer than

the number of hours devoted to the course in its traditional format, even if class size grows or the number of sections that faculty carry increases. This is possible because course redesign off-loads to the technology certain tasks like monitoring student progress and grading. Explaining how this occurs and documenting the changes by using the Scope of Effort Worksheet enable redesign leaders to help union leadership understand the benefits of redesign for both students and faculty. Having union support is crucial to successful change on a unionized campus.

Assess the Availability of Financial Support

Do you have sufficient financial resources available to support a course redesign program? If not, you need to develop a plan to secure that support before beginning to plan and develop the redesign program. Financial resources may be needed to support three things depending on the nature of the redesign.

- *Faculty Released Time.* To focus on planning the redesign, a subset of full-time faculty will need released time from some or all of their teaching responsibilities. Financial resources will be needed to pay qualified adjuncts to teach those sections so that faculty who are key to the redesign can have time to do the work. Not all faculty involved in the redesign need released time. Those granted released time should hold pivotal roles in the planning and development of the redesigned courses.

  NCAT does not recommend using extra service or overtime pay rather than released time. Because faculty members were presumably fully employed prior to the beginning of the redesign process, paying overtime means that faculty must work on the redesign after hours or on weekends. The use of overtime payments also means that faculty may incur difficulty in scheduling important meetings with team members or others on campus. The overtime payment method of remuneration forces faculty to place the redesign lower on their priority list because their current classes and students must come first.

  If the planning schedule permits, paying stipends during the summer may work. Some faculty cannot be released during the year for various reasons, which prohibits their participation in the redesign project. If you decide to pay summer stipends, it is important for all participants to be on campus with a regular meeting schedule and set tasks to complete as part of the redesign's development.

- *Technological Infrastructure.* Some institutions have robust infrastructures, but many need to expand their infrastructures to support larger labs or to equip small classrooms. Typically, course redesign means more students will be using on-campus computers and accessing the campus network. Thus, an institution's technological infrastructure will need to be examined and may need expansion as new demands are placed on it and the volume of student engagement increases. Again, senior administrators are typically those who make such important infrastructure decisions. As noted earlier, they must understand the reason for the redesign and the anticipated benefits for students and the institution.

- *Computer Labs/Classrooms.* Some institutions have existing computer labs/classrooms that are underutilized and can be rescheduled and repurposed. Other institutions will have to expand their labs/classrooms because more students will be using them than were using them before the redesign. Still others will need to build new labs/classrooms. When repurposing or expanding existing labs/classrooms or creating new ones, senior administrators are typically those who make such important space decisions. As noted

earlier, they must understand the reason for the redesign and the anticipated benefits for students and the institution.

Even though all successful redesigns will reduce instructional costs over time, some financial resources are needed up front. (Funds that will be needed as an ongoing feature of the redesign to buy software or technology-based services such as grading assistance or tutoring should be included in overall redesign planning.) Where do those financial resources come from? Some institutions have redirected internal funds to support redesign. Other institutions have received outside funding from Title III or Title V grants or from private foundations that seek to improve student retention and success. The ability to clearly articulate the problem the institution is trying to solve by implementing course redesign will go a long way to enable funders (either internal or external) to understand and support the redesign effort.

Take Advantage of NCAT Resources

Once the institution has a clear understanding of its goal and believes it has the necessary support and resources to move forward in the development of a redesign program, both faculty and administrators must learn more about course redesign, what its strengths are, and how it actually works.

- *Background Reading*. Chapter III of How to Redesign a College Course Using NCAT's Methodology includes a short bibliography of NCAT articles about course redesign. Distributing the articles to campus leaders and potential redesign teams and discussing them as a team and with others are good activities to pursue in preparing to develop a plan for a redesign program.

- *Redesign Case Studies*. NCAT has provided the higher education community with almost 200 case studies of redesigns that both improved learning and reduced costs. The case studies are sorted by discipline, redesign model, and degree of success. The NCAT website has an array of free resources for those seeking to implement a successful redesign, including data from both two-year and four-year institutions.

- *Campus Visits.* Those involved in the redesign program—both faculty members and administrators—should consult with and visit institutions that have successfully implemented at least one large-scale course redesign. Visiting multiple institutions is a good way for program leaders to observe exactly what occurs in a course redesign, to see actual interaction between students and instructors, and to discuss issues that may have arisen during the planning stage. Campus visits have been definitive in convincing faculty and administrators who may feel hesitation about course redesign or who cannot envision either exactly how it would work in practice or its effectiveness. When faculty and administrators see course redesign in action, talk to students, and talk to their colleagues, they tend to come to understand that course redesign is a viable way to solve both academic and resource problems at their institutions.

- *Redesign Scholars*. In 2006, NCAT established a Redesign Scholars Program to link those new to course redesign with more-experienced colleagues whom they can turn to for advice and support. Trained in NCAT's course redesign methodology, Redesign Scholars have led successful redesigns that have been sustained over time. Only exemplars in course redesign are selected to be Redesign Scholars.

Individual institutions interested in initiating course redesign programs may wish to invite a Redesign Scholar to visit their campuses. Site visits focus on issues of curriculum and pedagogy, administrative matters, assessment and evaluation efforts, and implementation issues. Redesign Scholars are also available to campuses via telephone and e-mail for ongoing consultation. Redesign Scholars are engaged on a per-event basis and determine their consulting fees individually.

Follow the links at http://www.theNCAT.org/RedesignAlliance/ScholarsList.htm to read about each Redesign Scholar's background and redesign project in order to choose someone who would make a good fit with your particular redesign idea. Contact information is also provided.

Readiness Checklist

- Have you clearly identified the problems the redesigns will solve? Do you have data to support the extent of the problems? Do others on campus also acknowledge the problems?
- Do you have sufficient resources to support the redesign program? Have you identified sources of external or internal funds to support the redesigns?
- Do the senior administrators who make funding and space decisions understand the needs of the redesigns? Do they have sufficient information to make appropriate decisions?
- If your campus is unionized, have plans for the redesign program been discussed with union leadership? Have you shared completed Scope of Effort Worksheets to document that the redesigns will not increase workload?
- Have you visited other campuses that have implemented successful redesigns, or have you had telephone discussions with their faculty members and administrators? Were others who might have reservations about the redesign invited to join the visits or the phone calls?
- Have you considered asking Carolyn Jarmon, NCAT Vice President, and/or one or more NCAT Redesign Scholars to visit your campus and offer advice about the redesigns?

III. Making Key Decisions before the Program's Launch

This chapter builds on the critical components of program design discussed in Chapter I and discusses the decisions that program leaders must make in order to customize NCAT's approach to local circumstances. Customizing requires that the program leaders engage in a series of program design and development tasks prior to the program's launch. This stage comprises three parts:

- Develop a Call to Participate and Application Guidelines
- Make decisions about necessary elements of the program
- Make decisions about optional elements of the program

Develop a Call to Participate and Application Guidelines

The first step in launching a course redesign program is to develop a Call to Participate directed toward the entire campus community and a set of Application Guidelines directed toward those interested in applying to participate in the program. The contents of those documents incorporate the first three key components of a campuswide program: an organized public initiative with clear and specific goals, a funnel approach, and a competitive process.

For those program documents, NCAT has developed templates that can be freely adapted and revised as needed by any campus to reduce the labor intensity of the tasks. The templates are included in the appendices. The documents may seem lengthy, but they have worked well for us in all of the course redesign programs we have conducted since 1999. You may of course edit them as needed.

Make Decisions about Necessary Elements of the Program

Before developing those documents, you must make a number of decisions involving the following topics.

Clear Goals. What are the program's goals? Goals must be clear to the campus community. Examples of program goals are (1) adopt new ways to improve student learning outcomes, (2) demonstrate those improvements through rigorous assessment, (3) reduce institutional costs, (4) free up instructional resources for other purposes, (5) support enrollment growth on the same resource base, (6) increase graduation rates, and (7) develop the internal capacity of faculty and staff to continue the redesign process. A clear statement of program goals should introduce both the Call to Participate and the Application Guidelines.

Role of the Provost or Vice President for Academic Affairs. Redesigning a course is not simply a faculty project but rather a solution to a recognized, institutional problem. The sustainability of that solution is based on continuing institutional agreement at all levels. Someone important has to be in charge of the redesign program. NCAT recommends that the campus provost or vice president for academic affairs lead the program—consulting others on campus as necessary—and make final decisions about the program structure in terms of the wording of the Call to Participate and the Application Guidelines. This leadership role cannot be delegated to a faculty committee or a teaching and learning center director or an administrative intern or faculty fellow. Day-to-day management of the program can be delegated to someone in the office of the provost or vice president for academic affairs, but the message that the provost or vice president for academic affairs is in charge should be clear to the campus community.

Program Leadership Team. We strongly recommend that the provost or vice president for academic affairs be in charge of the program, but day-to-day program management should be delegated to a team, led preferably by someone in the office of the provost or vice president for academic affairs who reports directly to the latter. The team should consist of a small but targeted number of people who will have involvement in the redesign efforts—such as representatives from the academic technology organization, student affairs and advising, facilities and classroom management, instructional design, and the teaching and learning center. The team should be prepared to meet with potential participants prior to the award of grants and then with project leaders as a group on an ongoing basis throughout the implementation period; we suggest monthly meetings at minimum. The composition of the team enables important campus constituents to both be aware of redesigns as a whole and serve as a resource to help redesign projects resolve any problems that arise. The team is referred to as *the program leaders* throughout this guide.

Large-Enrollment Courses. To achieve maximum impact on improving student learning and on reducing instructional costs, courses targeted for redesign should have large numbers of students and instructional personnel. Although increased learning may result from the redesign of small courses, to achieve the strategic institutional benefits of both increased learning and decreased cost, the focus should be on large-enrollment courses. 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. Deciding to focus on large-enrollment courses—and providing a rationale for that decision—should be part of program planning.

Data Collection. Program leaders should encourage the submission of redesign proposals that will affect large numbers of students based on an institutional review of data. To identify which courses offer the most promise for redesign, the program leaders should collect and distribute data about potential courses for redesign (e.g., top 25 in enrollment) for the most recent fall term for which data are available. Data should include the total enrollment in each course and the successful completion rates (with grades of C or better) in each course. Using that approach will focus institutional attention on identified areas needing improvement and options for cost reduction and quality improvement.

Number of Participating Projects. Program leaders must decide on the number of projects they want to participate in during the first round of the course redesign initiative; NCAT recommends selecting three to five projects in the first round. It is extremely important to do everything possible to ensure the success of the initial projects so that they can serve as models for future rounds of course redesign. The campus community must be convinced by example that course redesign can indeed lead to improved student learning at reduced instructional cost.

Grant-Making Strategy. To incent faculty and staff to participate in the program and to support campus redesign projects, the institution should at the outset of the program offer grants and clearly state their dollar amounts. The program leaders decide what the amounts will be. Some projects may require additional institutional support such as, for example, to rehab campus space or to establish a computer lab. Other questions that need answering about how grants will be administered are, Will you require matching funds from the departments? Will you restrict the expenditure of funds in any way? Will you offer a bonus for successful completion or for achieving a particular goal (e.g., increasing enrollment, reducing the DFW rate by XX%)? Will you award half of the grant funds initially and the other half upon successful completion of a pilot term? Are you willing to ask the department or program to return the funds if the project fails to

carry out its redesign plan? All decisions regarding such issues should be included in the Application Guidelines.

Cost Savings Statement. Because the topic of reducing costs in higher education is controversial, the program leaders must be thoughtful about the way they introduce it and must assure potential program participants that they will benefit from participation. What does *cost savings* mean in practice? It is important that the campus community 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 redesigned courses remained in the department that generated the savings, and the savings were used for instructional purposes such as:

- Offering additional or new courses that previously could not be offered
- Satisfying unmet student demand by serving more students through the same resource base
- Breaking up academic bottlenecks—courses that delay students' forward progress in a subject area or program because the courses are oversubscribed
- Increasing faculty released time for research, renewal, or additional course development
- A combination of purposes

NCAT thinks of cost savings as a reallocation of resources that ultimately enables faculty and their institutions to achieve items on their wish lists: what they would like to do if they had additional resources. In some cases, cost savings involve faculty time, thus enabling faculty members to teach additional students or do other institutional tasks. In other cases, cost savings translate into actual dollars (e.g., using fewer adjuncts), and the dollars can be dedicated to other institutional purposes. The program leaders should state in advance the expected allocation of the cost savings generated by redesign projects. We recommend including in both documents a statement such as, "Any savings generated through the redesign projects will remain in the departments or programs that generated them."

Make Decisions about Optional Elements of the Program

The NCAT methodology can be adapted to fulfill the priorities of each particular institution in addressing the problems it seeks to solve. As they make decisions about the necessary elements of program design listed earlier, program leaders may also wish to customize the redesign program and its description according to their own goals and objectives. For example, even though the overall program goals are to improve the quality of student learning while reducing instructional costs, program leaders may want to put special emphasis on how those goals get expressed. For example, rather than saying "reducing costs," the wording could be "support enrollment growth without additional resources."

In addition, program leaders may want to limit the courses that are eligible for redesign. Following are examples of choices:

- Only the top 25 in enrollment numbers
- Only introductory courses
- Only courses with high failure rates
- Only those courses with gender, economic or racial achievement gaps
- Any large-enrollment course
- Courses at any level, including graduate courses

- Specific academic subsets (e.g., math and science, developmental courses)

Key Decisions Checklist

- What are the program's goals? Have you clearly stated them in language that all campus constituents can understand? Have you included them in the Call to Participate and the Application Guidelines?
- Has the campus provost or vice president for academic affairs committed to lead the program?
- Have you decided who will serve on the program leadership team and set forth a schedule for team meetings with individual project leaders?
- Have you decided to focus on, say, large-enrollment courses and provided a rationale for that decision?
- Have you collected and distributed enrollment and completion data about courses with the potential for a redesign (e.g., top 25 in enrollment)?
- Have you identified the number of participating projects for the first round of the initiative? Have you made it clear that there will be subsequent rounds so that more departments can be involved in the redesign?
- Have you decided to award grants to participating redesign projects? Have you decided on the dollar amounts of the grants? Have you decided how the grants will be administered and the conditions under which they will be awarded?
- Have you decided what will happen to any cost savings produced as a result of the course redesign initiative? Have you made a public statement about that decision so that all campus constituencies are aware of the decision?
- Have you identified any special emphases that will determine which courses are candidates for redesign?
- Have you established a program timeline and communicated it to all members of the campus community?

IV. Developing a Plan of Work

It would be hard to overstate the importance of writing things down. Writing things down ensures that everyone involved in the redesign program knows what has been agreed to.

A written Plan of Work should be developed prior to public announcement of the program. The Plan of Work can be referenced and revised when necessary throughout the process, serving as a road map to keep everyone on track.

A sample Plan of Work is included in the appendices.

Establish a Program Timeline

The plan of work should be structured around the program's timeline. Here is an example timeline recommended by NCAT:

August - September 2015	Program planning and development
October 1, 2015	Program announced; Call to Participate distributed
November 15, 2015	Workshop #I: An Orientation to Course Redesign
January 15, 2016	Responses to Course Readiness Instrument due
February 28, 2016	Workshop #2: Developing the Redesign Proposal
March - June 2016	Redesign projects develop final proposals
July 1, 2016	Redesign projects submit final proposals
July 15, 2016	Projects selected; grants awarded
July - December 2016	Redesign projects planning and development
Spring 2017	Redesign pilots
June 2017	Workshop #3: Interim Progress Reports
Summer 2017	Revisions to redesign plans
Fall 2017	Full implementation of redesign projects
January - March 2018	Redesign projects conduct project evaluations
March 15, 2018	Final project reports due
April 2018	Workshop #4: Assessing the Results
Summer 2018	Dissemination of results
	Program evaluation

Throughout this guide and its appendices, we use these example dates consistently to make the linkages clear, but they are, of course, only examples.

The chapters that follow describe each of the program elements in greater detail.

Develop a Publicity Plan

Program leaders need to develop a plan to generate awareness of and bring visibility to the program at all campus levels. Program leaders should create a name for the initiative such as the "University of X Course Redesign Initiative"—something that will be meaningful to all campus constituents. Information about the program should be communicated not only to faculty, administrators, and professional staff on campus but also to board members, local and national press, policy makers, peer campuses within the state, and so on. The program leaders should create a database of those who will receive information and updates about the program throughout its duration. Active communication to multiple constituents establishes the initiative as a campus priority and signifies its importance.

Communication mechanisms such as broadcast emails or a newsletter dedicated to the redesign initiative can be used to publicize program activities throughout each stage of the program. During the selection stage, the program leaders should announce the names of those who submitted responses to the readiness criteria, those who got selected to move on to the next stage, and those who got selected to participate in the program. During the implementation stage, the program leaders should circulate summaries of project progress reports, summaries of project outcomes from the pilot stage and final outcomes, and summaries of lessons learned from the redesign's full implementation period. The message should convey something that says: "It is a privilege to be selected to participate in the program, and we applaud your success." Active communication is crucial to ensuring that lessons learned get shared and course redesign experiences get scaled to produce further quality improvements and additional cost savings."

A sample Publicity Plan is included in the appendices.

Create a Program Website

Program leaders should create a comprehensive website to both support and publicize the program. A website provides an ongoing way for the campus community and other stakeholders to learn the status of the initiative and to be aware of deadlines, workshop plans, and the like. The website can be linked to NCAT's website so that those on campus can understand that the campus initiative is part of a *national* effort to improve learning while reducing costs. As the redesign program progresses, abstracts of the redesign plans, interim progress reports, and final outcomes reports can be added.

Throughout the program's duration, the website's first paragraph on the home page should permanently contain a brief description of the program—for example, "Building on lessons learned from national programs at the National Center for Academic Transformation, the [INSTITUTION] Course Redesign Initiative will demonstrate how [INSTITUTION] can redesign its instructional approaches by using technology to achieve both cost savings ad quality enhancements. Redesign projects focus on large-enrollment introductory courses that have the potential to affect significant numbers of student and generate substantial savings. Each project fully implemented its redesign during the spring 20XX term."

During the application period, the website should include links to and brief descriptions of the Call to Participate; the Application Guidelines; an FAQ (Frequently Asked Questions) page appropriate to your campus workshop information (day, time, location, how to register, homework information); and links to the Final Proposal Format document that gives instructions for preparing final course redesign plans.

After the grant awards have been made, you should move the application information to a section called "Archives." You may wonder why you should keep the application information on your website. The reason is that availability of the original documents is useful throughout the process as new members of the campus community become aware of the program or when questions arise about how the program works.

You should then add a section called "Project Descriptions," with links to edited versions of each project abstract, including the names of the primary project leaders and their contact information. As the program progresses, you can add summaries of progress reports to this section, pilot outcomes reports, and final project reports. Finally, the overall program evaluation

can be added. Information about future rounds of the program can be added whenever it becomes available.

For examples of how NCAT has constructed these sections of our website, see http://www.theNCAT.org/States/MO.html and http://www.theNCAT.org/R2R.htm.

Q: Why does the timeline include a pilot term? What is it?

A: NCAT recommends that every large-scale redesign conduct a pilot before moving to full implementation. What do we mean by a *pilot*? A pilot involves testing the redesign idea—including most if not all of the important quality improvement and cost saving characteristics of the planned redesign—with a subset 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 them 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 other problems involving the newly designed assignments or activities. 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 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. Redesign project participants have learned that it is much easier to solve problems involving 150 to 200 students rather than 1,000 students.

Q: Why should a program include four workshops?

A: The four workshops we recommend are of two kinds. The first two (An Orientation to Course Redesign and Developing the Redesign Proposal) are designed to teach participants how to plan and implement a course redesign. They are part of the fourth main component of a successful course redesign program: provision of resources and support for participants.

Most faculty members do not have prior experience in course redesign that both improves quality and reduces cost and that involves multiple faculty members working together. And it is difficult for most faculty to imagine how to approach the issues simply by referring to NCAT's website. Faculty therefore require training and development in the new methodology. Participation in the first two workshops will be a significant faculty development experience for all because the workshops help participants understand NCAT's strategies for quality enhancement and cost reduction. After attending the workshops, participants are much more prepared to formulate strategies for both quality enhancement and cost reduction.

All faculty members involved in prior NCAT programs have expressed appreciation that workshops were available to them and voiced the belief that their colleagues would benefit from similar experiences. The workshops were key in providing examples, organizing principles, a national perspective, and opportunities for discussion. Such greater preparedness on the part of participants produces strong, detailed course redesign proposals.

The second two workshops (Interim Progress Reports and Assessing the Results) form part of the fifth main component of a successful course redesign program: accountability. The timing of these two workshops is such that projects must submit pilot implementation reports and final implementation reports—both of them supported by data—to program leaders prior to the workshops and must communicate the information to their peers in a public forum. Holding the workshops in conjunction with reporting due dates helps ensure the timeliness of report submissions. Finally, the workshops offer continued support to the redesign projects and are designed to enable the projects to learn from both program leaders and other projects as they implement and evaluate their redesigns.

Q: The timeline seems long—almost three years from conception to conclusion. Why do you recommend such a lengthy period for the program? Can we shorten it?

A: The timeline is driven by two primary factors: the academic calendar and the need for a substantial learning and planning period.

As discussed earlier, we highly recommend implementation of a pilot before a move to full implementation. The logical term for a pilot is the spring term so that the project team has time during the summer to revise the redesign based on what was learned and to prepare to fully implement the redesign in the fall term. Some redesign projects have piloted in the fall and been fully implemented in the spring, but that schedule is not optimal because of the brevity of the winter break between fall and spring.

NCAT recommends a six-month planning period so program participants can become familiar with course redesign and can develop highly detailed plans for their redesigns. Unlike many grant proposals, which are essentially "plans to plan," NCAT redesign proposals are extremely detailed so that the projects can begin to make preparations for their redesigns as soon as they are accepted to participate in the program. Five months are allocated for the concrete preparation activities needed to launch the pilot. Chapter XII of How to Redesign a College Course Using NCAT's Methodology discusses those activities in detail.

Prior to the program's launch, program administration activities take up about two months, an extremely important period in which program leaders make decisions about the program's structure and get key campus constituencies on board. At the end of the program, program evaluation and dissemination account for about four months, a period that could certainly be shortened but could also be used to prepare for the second round of a campus-wide redesign program.

Q: The timeline seems short—only three years from conception to conclusion. Why do you recommend such a truncated period for the program? Can we lengthen it?

A: NCAT has used this timeline in successfully working with more than 200 course redesign projects. We believe that, although it may move along relatively expeditiously (compared with academia's typical glacial pace!), it allows sufficient time for planning and preparation. A major element in the timeline's structure is to insist that projects develop detailed plans for their redesigns before grants are awarded. That forces projects to determine choices and make decisions rather than carry on endless discussions about possibilities without arriving at conclusions—a phenomenon with which we in the academic community are all too familiar. An exception to the recommended timeline might present if a pilot implementation goes disastrously wrong. In that case, it would be prudent to repeat the pilot before moving to full implementation.

V. Building Awareness and Capacity

Important goals of a campus-wide course redesign program are (1) to build awareness of the possibility of improving student learning while reducing instructional costs and (2) to develop the capability to do so among faculty, administrators, and professional staff. The redesign of specific large-enrollment courses is, in essence, a means to an end.

After making decisions specific to your institution's campus-wide program as described in Chapter III, we recommend that program leaders engage in the following activities that educate the campus community about course redesign and that will arouse initial interest on the parts of those who want to participate in the program.

Get Campus Leadership on Board

Program leaders should meet with the institution's board of trustees, the president's cabinet, and faculty leaders (e.g., faculty senate, pertinent committees) to discuss the new initiative. The purposes of such consultations are to explain the concept of course redesign and its benefits and to enlist the support and leadership of those important campus constituencies.

Why: Because institutional leadership is key to the success of a course redesign program, these meetings will help ensure that key leaders support the new initiative.

Announce the New Initiative

We recommend that the campus executive leadership announce the new program to the database constituents described in Chapter III.

Why: When top administration actively supports the initiative, the importance of the program is signaled to all campus constituents.

Distribute the Call to Participate

The Call to Participate formally invites all members of the campus community to consider participating in the course redesign program. The Call should be distributed approximately two months before the Orientation Workshop (described later) and should include specific information about the workshop. We recommend circulating the Call to every faculty member, administrator, and professional staff member on campus to make all aware of the program.

Why: To interest as large an audience as possible in participating in the Orientation Workshop—even if not everyone ultimately submits a proposal—and to develop an awareness of the redesign initiative among all members of the campus community. Those interested should be encouraged to send teams (more than one representative of a potential course redesign) to the workshop.

A sample Call to Participate is included in the appendices.

Distribute the Application Guidelines

Application Guidelines need to be available to the campus community by the time of the Orientation Workshop. Directed toward those discipline-based teams that are interested in applying to participate in the program, the Guidelines contain the overall goals of the program, stipulate the timeline for applying, describe the expectations from applicants at each step of the

application process, and give information regarding the kinds of grants and other assistance that will be available through the entire redesign process. The idea is to establish an atmosphere of competition so that project teams will strive to be selected to participate in the program. Establishing a competition also conveys the message that the program is highly valued.

Why: Providing specific information about how the program will work, including the requirements for final proposals, informs everyone what will be involved and how they will be involved.

A sample set of Application Guidelines is included in the appendices.

Plan Workshop I: An Orientation to Course Redesign

Program leaders should conduct a one-day, face-to-face workshop open to anyone interested in submitting a course redesign proposal. The goal of this workshop is that participants acquire a solid understanding of what is needed to implement a good redesign. Through presentations, case studies, and group work, participants learn basic planning steps as well as how to adapt NCAT's redesign methodology to the needs of their particular circumstances. Program leaders should encourage as many faculty members, administrators, and professional staff members as possible to participate in this workshop.

Workshop topics include:

- An Introduction to Redesign: Offers an overview of the redesign methodology, its purpose, the premises upon which it has been developed, the strategies it applies, and the planning process.
- Case Studies in Redesign: Engages participants in an interactive application of course redesign models to institutional cases.
- Course Readiness: Includes 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 NCAT's Cost Planning Tool, which 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.

Why: Participants learn more about what is involved in implementing a large-scale redesign, what models have proved successful, and how to measure both student learning outcomes and instructional costs. The group members also exchange ideas about course redesign during a case study exercise, the goal of which is to help them see new possibilities.

Require Workshop Homework

Participants should be expected to have completed some assigned reading about course redesign developed by NCAT prior to the workshop and to have discussed some redesign possibilities with others.

Prior to the workshop, workshop participants should read:

- An Overview of Course Redesign
  This article provides a brief overview of NCAT's course redesign methodology and outcomes.

- Improving Learning and Reducing Costs: New Models for Online Learning
  This is an edited version of a September/October 2003 *EDUCAUSE Review* article that describes the six redesign models that have emerged from NCAT's course redesign programs.

- Chapters I and III of How to Redesign a College Course Using NCAT's Methodology
  This is a summary of the redesign techniques that are essential to improving student learning while reducing instructional costs.

- [INSTITUTION] Application Guidelines
  The guidelines show how to apply to participate in the course redesign initiative. Participants should pay particular attention to Stage Two: Identifying the Course.

Why: The required reading introduces participants to course redesign, prepares them for the content of the workshop, makes the workshop a more productive and meaningful experience, and prevents participants from feeling overwhelmed when they begin to encounter all of the new ideas.

Conduct Workshop Sessions

Each of the following sessions on the workshop agenda should be conducted by an NCAT staff member and/or the program leaders.

Note: If you are new to course redesign, we recommend that you engage NCAT staff to conduct the Orientation Workshop. During the first round of your campus-wide redesign program, the program leaders will learn a lot and become able to conduct this workshop in future rounds.

Course Redesign Overview. This session provides an overview of NCAT's course redesign methodology, the methodology's purpose, the premises upon which the methodology has been developed, the strategies it applies, and the planning process, including examples of the Six Models of Course Redesign. It also provides an opportunity for participants to ask questions.

Essential Elements of Course Redesign. This session engages participants in an interactive discussion of the Essential Elements of Course Redesign. Participants should be seated at tables of 8 to 10. After a brief overview presentation by the workshop leaders, each table should be asked to consider one element. Questions to be answered during this 45-minute period include, Why do you think this element is important? What benefits would implementing this element offer? What challenges would it present? What needs to be taken into account in implementing this element? One person from each table should be chosen to speak for the group in the 30-minute report-back portion of the session.

Getting Ready for Course Redesign. This session engages participants in an interactive discussion of the course readiness criteria. The criteria address the quality- and cost-planning tasks associated with redesign, including selecting the appropriate redesign model, assessing the impact of redesign on student learning, saving resources through redesign, and what can be done with the savings. After a brief overview presentation by the workshop leaders, each table should be asked to consider one criterion. Questions to be answered during this 45-minute

period include, What do you need to consider in making a choice? Why choose one versus another? What do you need to take into account in implementing a particular model or strategy? What issues do you need to consider in developing your responses? What evidence would you provide to indicate your readiness? If there are gaps in your readiness, how would you plan to address them? *O*ne person from each table should be chosen to speak for the group in the 30-minute report-back portion of the session.

What's Next. This session discusses next steps in the grant application process and provides an overview of NCAT's planning resources that support course redesign. It's also an opportunity for participants to ask questions.

A sample agenda and a list of the logistical tasks that program leaders need to perform in preparation for the workshop are included in the appendices.

Frequently Asked Questions

Q: Can an NCAT redesign scholar lead the Orientation Workshop?

A: We strongly recommend that you engage NCAT staff to conduct the Orientation Workshop during the first round of your campus-wide redesign program. An alternative would be to engage one of NCAT's Redesign Scholars who has had experience in course redesign beyond his or her individual course. If you are interested in pursuing either alternative, please contact Dr. Carolyn Jarmon, NCAT vice president, at cjarmon@theNCAT.org.

If you plan to focus solely on mathematics, NCAT Redesign Scholars in mathematics are fully capable of leading an orientation workshop.

Q: I'd like to lead the workshop myself or join with NCAT staff and/or scholars to do so. What is the best way for me to prepare myself since I'm rather new to the ideas also? What do I do if I don't know the answer to all of the questions that come up about course redesign?

A: Most campus administrators are not knowledgeable about NCAT's redesign methodology, and even those who are do not have specific experience in conducting course redesigns across multiple academic areas. NCAT is here to help. The NCAT website has an array of free resources for those seeking to implement a successful redesign, including data from both two-year and four-year institutions. You should become familiar with How to Redesign a College Course by Using NCAT's Methodology as well as case studies of prior redesigns (see http://www.theNCAT.org/PCR/Proj_Success_all.html). The case studies are sorted by discipline, redesign model, and degree of success. You should refer questioners to either the web resources or to the relevant Redesign Scholars, who are happy to discuss redesign questions via email or telephone. You should also feel free to contact NCAT if you have questions or for help in pointing people in the right direction.

Q: It looks like the content of the workshop and the homework are duplicative. Have you ever had complaints about this?

A: During the past 15 years that NCAT has worked with literally thousands of faculty and administrators in the orientation workshop, only one person has raised that issue. The repetition is deliberate. The homework provides baseline information about course redesign (and we certainly hope that everyone does the homework), but the reading material is only a prelude to

the interactive content of the workshop. Also, because most of the content is new to participants, having the information repeated aids in understanding, as we have been told again and again. We do not believe most academics can master the concept of course redesign—especially its cost reduction aspect—simply by reading our materials. The workshop is an opportunity to interact with NCAT staff and others, get answers to specific questions, and inspire participants that it is indeed possible to improve learning while reducing costs.

VI. Assessing Course Readiness

The purpose of this stage of the program is to ensure that course redesign teams are created that are clear about what they are trying to accomplish and how they intend to achieve it. This stage, which will take about three months to complete, comprises three parts:

- Require applicants to establish course redesign teams
- Require applicants to complete the readiness instrument as a team
- Review responses to the readiness instrument

Require Applicants to Establish Course Redesign Teams

Program leaders should require those interested in participating in the redesign initiative to establish redesign teams and to think carefully about which courses are good candidates for redesign. Successful course redesign is the product of a team effort. It is neither a faculty project nor an administrative project nor a professional staff project. It takes *all* of those people—because it is a team effort.

Teams that are well organized understand the amount of work needed for the redesign and allocate the redesign work among members. The teams move expeditiously through the planning and development process—spending their time effectively—and achieve both success and sustainability. In evaluating prior redesign programs, we have found that taking a team approach always receives the highest possible rating from participants. We have also found that projects that did not form project teams tended to struggle and be less successful.

Those interested in participating in the program should establish redesign teams that consist of the following.

- *Faculty Experts.* Course redesign requires that faculty experts explicitly identify a course's desired learning outcomes and agree on course content. Most courses appropriate for course redesign are typically taught by more than one faculty member. To ensure course consistency, faculty experts must work together on the redesign—resolving any differences in how the course will be offered—and must collaboratively plan the most effective way to accomplish the redesign goals.

- *Administrators.* Because redesigns affect multiple sections, large numbers of students, and academic policies and practices, it is important that the team involve academic administrators. The level of those administrators will depend on the organization of the institution and the institution's size. For some, it will be the provost/academic vice president or designee; for others, it will be a dean or department chair. Those team members play important roles when institutional issues arise such as changes in scheduling or the use of classroom space. If unexpected 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 as possible for students to use. Technology professionals contribute ideas about how to increase interaction with content as well as with other students. They also

suggest design approaches that ensure that the technology will not limit students' learning options.

- *Assessment Experts.* In Chapter VII of How to Redesign a College Course Using NCAT's Methodology, NCAT sets forth straightforward methods whereby student learning in the redesigned course can be compared with student learning in the traditional course. It is, however, useful to include on the team a member who is knowledgeable about assessment and research design—especially if the institution seeks to measure additional facets of the redesign such as performance in downstream courses or student satisfaction. Such expertise may be found in a department of psychology or a department of education or in offices of institutional research.

- *Instructional Designers.* If your campus is fortunate enough to have instructional designers on staff, you may wish to add one to the team. An instructional designer can help guide the re-sequencing of instruction and provide insight into learning theory and modularization. Subject matter experts are not always learning experts, and such guidance can be crucial.

Why: Part of the goal of the redesign process is to teach institutions how to improve learning while reducing cost, which means involving a variety of personnel at all stages of the projects. Teams are key to successful redesign projects, and all players—not just faculty—should be included in early planning because of the multiple dimensions involved in large-scale course redesign.

Require Applicants to Complete the Course Readiness Instrument as a Team

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 interested in participating in the redesign program should be asked to think carefully about which courses are good candidates for redesign and to respond to the Course Readiness Instrument as a team, which will be the team's first activity. Completing the readiness instrument enables each team to assess collectively its strengths and weaknesses, thereby gaining an understanding of what it needs to do to close gaps in its preparation early in the process. No team perfectly meets all of the readiness criteria, especially at the beginning of the planning process. Every team will discover things it needs to work on in order to carry out a successful course redesign.

Why: This exercise is designed to establish the importance of a team effort, to help teams select the appropriate course, to analyze their institutional circumstances so they can be sure they are prepared to launch a successful project and to identify "gaps" in readiness that need to be addressed. Reviewing readiness responses enables the program leaders to assess (1) teams' seriousness of purpose in the way they complete their responses and (2) their readiness to take on a large-scale project as well as to eliminate those teams that have chosen inappropriate courses.

Course Readiness Instrument

The readiness criteria are designed to help program leaders select the courses to be redesigned with the highest chances of success. In some cases, applicants will be asked to read an article, discuss the reading as a team and make a tentative decision, which may change as they learn more about the redesign process. Answering each as honestly as possible—and providing data to support their answers—will lead to the most positive outcome for each potential project.

1. Course Choice

Choosing the right course is the first step in a successful course redesign project. Courses that face academic or resource problems or both are the best targets. What impact will redesigning the course have on the curriculum, on students and on the institution—i.e., why do you want to redesign this course? Please be specific by providing data on pass rates, enrollment numbers, and so on.

Is there an academic problem in this course such as a high failure rate? Does the course face a resource problem such as how to meet increased enrollment demand with no commensurate increase in resources? Is the redesign linked to some larger institutional goal such as a Quality Enhancement Plan (QEP), a campus strategic plan, or a reaccreditation process?

2. Redesign Model

When you develop your redesign plan, you will be asked to select a redesign model. Please read Chapter III of How to Redesign a College Course Using NCAT's Methodology, which describes six possible models. At this point in the planning process, which redesign model do you think would be most appropriate for your redesign? Why?

When you look at the models chosen by successful redesign projects, you will notice that certain disciplines select particular models—e.g., math uses the emporium model, foreign languages use the replacement model, and so on. What aspects of the model you are thinking about using fit your particular discipline and your particular students? Have other successful course redesign projects in your discipline used this model?

3. Assessment Plan

When you develop your redesign plan, you will be asked to select an assessment model. Please read Chapter VII of How to Redesign a College Course Using NCAT's Methodology, 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?

Successful large-scale redesign efforts begin by identifying the intended learning outcomes and developing alternative methods other than lecture/presentation for achieving them. Have those responsible for the course identified the course's expected/intended learning outcomes in detail? Do you have baseline data for the course in its traditional format? If so, please describe. If not, how do you plan to collect baseline data and compare it to student learning outcomes after you have redesigned the course?

4. Cost Savings Plan

While developing your redesign plan, you will be asked to select a cost reduction strategy. Please read Chapter V of How to Redesign a College Course Using NCAT's Methodology, 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?

What does cost savings mean in practice? In the past, cost reduction in higher education has meant loss of jobs, but that's not the NCAT approach. In every NCAT course redesign project, the cost savings achieved through the redesigned courses remained in the department that generated them, and the savings achieved were used for instructional purposes. By reducing the cost of offering the redesigned course, institutions have been able to reallocate and do what they would like to do if they had additional resources.

5. Learning Materials

Successful course redesign that improves student learning while reducing instructional costs is heavily dependent upon high-quality, interactive learning materials. Today's commercial marketplace offers many reasonably priced materials that meet that requirement. NCAT has worked with close to 200 redesign projects that have considered, used and continue to rely upon such 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? What learning materials are you thinking about using in your redesign?

Ideally, one wants the faculty to have a "head start" in the redesign process if possible. Is the discipline one with a comparatively large existing body of technology-based curricular materials and/or assessment instruments? Are the faculty willing to use these materials if they meet course objectives? Will they employ an appropriate blend of using these materials and created "home-grown" materials in a non-dogmatic fashion? Are they willing to partner with other content providers such as commercial software producers or other universities who have developed technology-based materials?

6. Active Learning

Greater student engagement with course content and with one another, supported by information technology, is essential to achieving student success. Do the course faculty members have an understanding of and some experience with integrating elements of computer-based instruction into existing courses to support active learning?

Sound pedagogy is the key to successful redesign projects. When sound pedagogy leads, technology becomes an enabler for good practice rather than the driver. Some faculty may have a great deal of enthusiasm for large-scale redesign but little prior experience in this area. It is difficult to complete a successful project by starting from scratch. Having some experience helps to prepare for large-scale redesign efforts. Have the faculty systematically thought about and investigated alternative methods for empowering students to learn? What evidence can you provide to demonstrate faculty experience with integrating computing into existing courses in order to support active learning?

7. Collective Commitment

Collective commitment is a key element in the success and sustainability of redesign projects. As part of the planning process, you have been asked to form a course redesign team. Please describe the members of your team, list the skills they bring to the project, and determine what their roles will be in both the planning and implementation phases of the project. Please read Chapter XIV of How to Redesign a College Course Using NCAT's Methodology, which discusses how to achieve initial and ongoing consensus among faculty, campus offices, and senior administrators.

Are the faculty ready to collaborate? Have they engaged in joint conversations about the need for change? Are decisions about the course made collectively—in other words, beyond the individual faculty member level? Substantive changes cannot rely on faculty initiative alone because they are systemic and involve changes in such areas as policy (class meeting times, contact-hour requirements, governance approvals), budgeting (planning and processes that support innovation), systems (registration systems, classroom assignments), and infrastructure (equipment purchase and deployment). What is the level of support for the project beyond the departmental level?

Teams wishing to participate in the program should send a narrative addressing each of the course readiness criteria (about one page each) as they apply to the selected course, focusing on evidence that demonstrates the way in which they meet each criterion.

Responses to the Course Readiness Instrument should have a deadline date within the timeline and should be submitted electronically.

Teams should be asked to include a cover page with their proposals on which they

- List all team members by name including titles, academic affiliation, phone numbers and email addresses;
- Identify the person who is the primary contact for the team project, with the understanding that the primary contact will share communications appropriately with the rest of your team.

Review Responses to the Readiness Instrument

Program leaders need to review the responses in order to select teams to be invited to Workshop II: Developing the Redesign Proposal described in Chapter VI. NCAT recommends that reviewers use a three-point scale where each response to the Readiness Instrument is read independently by program leaders and rated 1 (strong response; no outstanding issues or only minor ones), 2 (potentially acceptable pending resolution of outstanding issues or confusion), or 3 (weak response or does not meet program guidelines).

Why: Responses to the readiness criteria provide indicators of how well teams understand the program, how they are thinking about possible redesigns, and how much initial preparation the teams have undertaken. The responses generally will not lead to rejection of a team's ideas this early in the process. Some of the responses, however, will serve as an early alert or warning that some teams or team members have not totally embraced the goals of the program or that some may need additional explanation of exactly how the process will work. The responses enable the program leaders to send feedback to those submitting responses as well as to clarify or emphasize the program's goals for those who are not clear at this point or who seem to demonstrate some

ambivalence about the goals. The responses also help program leaders advise weaker redesign teams about what those teams need to do to become ready.

In most situations, completing the readiness instrument represents a first pass at ensuring that participants understand the program's goals and expectations. In cases in which a large number of responses to the instrument are received—as was the case in most NCAT national programs—the readiness criteria may enable the program leaders to make screening decisions. The decision to eliminate a particular proposal that received a 3 rating would be based on things like the team's selecting the wrong course or making statements that clearly indicate the team has no interest in reducing cost. The program leaders can address those issues individually with teams or simply not invite a particular team to Workshop II.

Readiness Review Criteria

Indicators of strong responses to each criterion are listed next.

1. Course Choice

   Evidence that
   - The enrollment in the course is relatively high and the course is taught in more than one section by more than one instructor.
   - The course faces a clear problem that redesign can solve such as high drop/withdrawal/failure rates, inconsistency among sections, and difficulty finding qualified adjuncts.
   - The team intends to redesign the *entire* course: all sections and for all students.
   - Faculty plan to coordinate their pedagogical approach rather than leaving it up to individual instructors to make decisions so that *all* students have a uniform, high-quality learning experience.

2. Redesign Model

   Evidence that
   - The team has thoughtfully considered the six models and has made its tentative selection of a particular model based on its readings, its examination of NCAT case studies in its disciplines, and the characteristics of its students.
   - The institution and the team can support the choice of model (e.g., sufficient lab capacity for an Emporium Model, sufficient skills and support for the relatively complex Buffet Model.)

3. Assessment Plan

   Evidence that
   - The team has established learning outcomes for the course to be redesigned that have been agreed to by all who teach the course.
   - The team has already collected baseline assessment data for the course (e.g., the instructors may have used a common final exam in all sections of the course for the past five years and have scores for students) or has a clear description of how it expects to collect the needed data for the traditional course during the pilot period.
   - The team has thought about how to collect comparable data in the redesigned course.

4. Cost Savings Plan

   Evidence that
   - The team has read Chapter V of How to Redesign a College Course Using NCAT's Methodology and understands and supports the program's goal of cost reduction.
   - The team has decided on a tentative cost-saving strategy. The more clearly and simply the strategy can be stated, the stronger the response.

5. Learning Materials

   Evidence that
   - The team is clear about the program's focus—which is not on software development—and is committed to using existing, commercial products as a centerpiece of the redesign.
   - The team has investigated or is willing to investigate the range of existing learning software in the selected academic area and to collaboratively select a product that will foster the goals of the redesign. For example, the team may have already made appointments with publishers or software companies or contacted other institutions to learn what they are using in comparable courses that have been redesigned.
   - The team sees that software is an integral focus of the course rather than a supplement or add-on.
   - All faculty teaching the course will use the same learning materials, collaboratively selected by the team.
   - The team recognizes the need for training and mentoring of all faculty—both full-time and adjuncts—teaching the course in how to use the materials.
   - The information technology staff is willing to assist the team in installing and maintaining the software and in training and supporting faculty.

6. Active Learning

   Evidence that
   - The team understands the need to move beyond lecturing to engage students in active-learning activities. Some lecture may be included, but it represents a minor portion of the course; that is, students will spend the majority of class time working in small groups solving problems or actively engaged in using interactive software.
   - The team can supply concrete examples of what it will do to foster active learning by way of such statements as, "Low-stakes quizzes will be required twice each week" or "Students will be expected to work in small groups online and then present the results of their work in class."
   - The selected software will include features that enable students to do such things as practice key content ideas and apply principles.

7. Collective Commitment

   Evidence that
   - A team has been created that includes faculty as well as administrators, information technology representatives, and, if available, instructional designers.
   - The team recognizes the importance of collective commitment and its pivotal role in sustaining the redesign.

- The team has achieved consensus among those teaching the course and in the department about the redesign initiative and its goals, the anticipated changes in the course, and the impact on the department.
- The team has alerted other institutional offices—such as advising, financial aid, and the registrar—that the redesign will require their involvement.

Q: NCAT requires potential program participants to form teams. Do you ever run into problems in this regard?

A: Ideally, teams should be formed immediately after the first workshop—meaning, very early in the process. Responses to the readiness criteria and workshop homework should be completed as a team. In our experience, sometimes individuals rather than teams have completed those assignments. The worst instance of this approach occurs when a team asks the business office to complete the Cost Planning Tool, a sure indicator that the team does not understand the program's goals. Without the early formation of teams and consistent participation (e.g., lack of correlation between attendees at the first two workshops), a shared learning experience cannot result. The consequences are weak proposals and weak projects.

Q: Who should review the responses to the readiness criteria?

A: The project leaders (the full team) should read the responses to the readiness criteria and rank them individually. The leaders should then meet as a team to discuss the rankings and the responses.

Q: What should the program leaders do if a team chooses the "wrong" course?

A: This can sometimes happen when a particular team becomes enthusiastic about course redesign, but course redesign is not applicable to the team's course. Typically, this happens because the course is already so inexpensive that there is no easy way to reduce costs. What motivates the team is pedagogical improvement. The program leaders need to remember that a course redesign initiative is not simply a quality improvement program.

Q: Is it possible to choose the wrong redesign model?

A: Generally, any of NCAT's six models will work with any academic area—with two important exceptions: First, redesigns in mathematics should be required to use the Emporium Model. (See How to Redesign a College-Level or Developmental Math Course by Using the Emporium Model for a full discussion of the reasons.) And second, we do not believe that the Fully Online Model is appropriate for traditional-age freshman students—with the exception of information technology courses—or for particularly disadvantaged students because such students require a great deal of structure in order to succeed. (See The Essential Elements of Course Redesign for an elaborated discussion of this point.) The students in almost all of NCAT's fully online redesigned courses (see http://www.theNCAT.org/PCR/model_online_all.htm) have been mature adults for whom the fully online environment has proved very effective.

Q: What should the program leaders do if there is dissension in a department and some faculty members don't think the redesign is a good idea?

A: You need to assess the seriousness of the objections. It may surprise you to know that some faculty are resistant to change. If this is the reason, you need to persuade the resisting faculty to let the course redesign faculty conduct an experiment and judge its merits based on the data. A redesign that improves learning, increases course completion and reduces costs—supported by valid and reliable data—is hard to argue against. But if there is a bitter division within the department or some kind of ideological issue driving the resistance, it would be prudent to not allow the department to move forward in the application process. Eventually, the department's composition will change, and the newly fashioned department might participate in future rounds of the initiative.

VII. Preparing Teams to Submit Strong Proposals

Successful redesign requires developing a detailed plan for improving learning outcomes and assessing the results of that plan. Faculty are generally unfamiliar with quantitative assessment strategies that facilitate comparison between traditional and redesigned formats and that demonstrate improved student learning as a result of the redesign efforts. However, with assistance, faculty can develop assessment plans that establish baseline data and compare learning in the traditional courses with learning in the redesigned courses.

Successful redesign also requires developing a detailed plan for reducing instructional costs. The process includes cost analyses of the traditional course and the redesigned course. The analyses provide a clear context for understanding how an institution uses its resources (human as well as other resources) and for determining how those resources might be more effectively deployed for greater benefit to all. Teams need to work collaboratively to assess the kinds of tasks that must be carried out by faculty, tasks that can be done by effective use of information technology, and, finally, tasks that can be done by people other than faculty. Again, faculty are generally unfamiliar with costing strategies that allow comparison between traditional and redesigned formats and that document reduced instructional cost as a result of redesign efforts. However, with assistance, faculty can develop cost reduction plans that establish baseline data and that compare costs in the traditional and redesigned courses.

In both cases, redesign teams need to work in consultation with the program leaders to come to understand how to accomplish both tasks. Workshop discussions and individual consulting sessions help teams identify methods they can use to implement a successful assessment plan and a successful cost reduction plan.

NCAT's method for supporting projects during the proposal development process is an iterative one. We share the proposal requirements during the first workshop. Then, responding to the readiness instrument forces teams to make at least tentative decisions about the project plan. Sharing plans during the second workshop and partially completing the Cost Planning Tool (CPT) is yet another step in fleshing out a proposal. When it becomes time to develop the full proposal, many of the steps have already been taken; and teams have received feedback on their ideas.

Conduct Workshop II: Developing the Course Redesign Proposal

The project leaders should conduct a one-day planning workshop for the course redesign teams. All teams interested in submitting a final proposal should be *required* to participate in a second workshop that emphasizes further planning.

Why: The reasons are to give them feedback on their completed readiness responses and the CPT drafts (described later), to introduce them to additional innovative course redesign practices, to give them feedback on their tentative course redesign ideas, and to prepare them to complete final proposals.

Require Teams to Complete Workshop Homework

The project leaders should require workshop participants to read the following prior to the workshop.

- How to Redesign a College Course Using NCAT's Methodology

  This how-to guide is designed for those who want to improve learning and reduce costs in all sections of a single course in any academic area other than mathematics. The guide describes how to implement NCAT's course redesign methodology with a view to increase student success and reduce instructional costs. Those considering a redesign in mathematics should read How to Redesign a College-Level or Developmental Math Course Using the Emporium Model or How to Redesign a Developmental Math Program Using the Emporium Model, as appropriate.

- Redesign Case Studies

  NCAT has provided the higher education community with almost 200 case studies of redesigns that both improved learning and reduced costs. (See http://www.theNCAT.org/PCR/Proj_Success_all.html.) The case studies are sorted by discipline, redesign model, and degree of success. Participants should read those case studies in the discipline of the course they intend to redesign and in the model they intend to use.

- *Increasing Success for Underserved Students: Redesigning Introductory Courses*

  The *Increasing Success for Underserved Students* report examines the impact of the redesign techniques developed by NCAT's Program in Course Redesign on the success of adult students, students of color, and low-income students.

Why: The reason is to deepen understanding of course redesign, to prepare for the content of the workshop and for the homework assignments, to make the workshop a more productive and meaningful experience, and to encourage the consideration of new approaches as teams begin to develop redesign plans.

Participants should also be required to complete three tasks *as a team* prior to the workshop. Doing so gives them a taste of the redesign process, gets them started on their final proposals, and makes the workshop a more productive and meaningful experience.

1. Submit a draft of sheet 1 (the summary of personnel costs) and the top half of sheet 4 (the annual cost of the traditional course) of the Cost Planning Tool (CPT).

Teams should submit the draft to the program leaders one week prior to the workshop. During the workshop, project leaders should review the drafts and give some general feedback so that teams gain an initial understanding of how to complete the CPT correctly.

Why: This task gives teams practice in completing the CPT and enables them to understand how much it costs to offer the traditional course.

2. Submit a draft of sheet 1 of the Scope of Effort form, which analyzes who spends how much time on what in the course in its traditional format.

Teams should submit the draft to the program leaders one week prior to the workshop. During the workshop, project leaders should review the drafts and give some general feedback so that teams gain an initial understanding of how to complete the Scope of Effort form correctly.

Why: The Scope of Effort form has proved to be an important part of the course redesign process because it facilitates a team analysis of all of the instructional tasks in both the traditional and redesigned formats of the course. The exercise helps a team understand the various components of the course, consider components that can be changed and those that cannot, and analyze the sources of the costs of the course.

3. Prepare a five-minute summary of the choice of redesign model and how the team intends to implement "The Essential Elements of Successful Course Redesign" within that model.

For one part of the workshop, the program leaders should divide the participants into groups of eight, breaking up redesign teams, so that they can share ideas about models and principles and receive feedback on their ideas.

Why: We want teams to have developed an outline of what they intend to do at this point in the process, with the idea that their plans will be further refined after the workshop experience. We also want *each* member of the team to have an understanding of the redesign.

Conduct Workshop Sessions

Each of the following sessions on the workshop agenda should be conducted by an NCAT staff member and/or the program leaders.

Note: If you are new to course redesign, we recommend that you engage NCAT staff to conduct the Planning Workshop. During the first round of your campus-wide redesign program, the program leaders will learn a lot and become able to conduct this workshop in future rounds.

Review of Workshop Homework. This session gives redesign teams feedback on their completed readiness criteria and CPT workshop homework as well as guidance for future planning. In our review of readiness responses, we discuss each criterion and what we were looking for in teams' responses (e.g., evidence of preliminary planning and evidence of a collaborative response). We give workshop participants an overview of the planned redesigns (e.g., course titles, choice of model); we assess the assessment methods and cost reduction strategies that participants have chosen; and we emphasize that in order to participate in the program, participants must have a valid cost reduction strategy because this is something a minority of teams typically resist doing. In our review of their draft CPTs, we present tables that compare each team's cost-per-hour in the traditional course and ratios of in-class to out-of-class hours so that they can see whether their calculations are reasonable. And we provide additional instruction in how to complete the CPT.

Innovative Ideas for Course Redesign. This session engages participants in an interactive discussion of innovative redesign ideas. In it, we focus on two topics: New Instructional Roles and How to Create Small within Large—Chapters IV and VI of How to Redesign a College Course Using NCAT's Methodology. Participants should be seated at tables of eight. After a brief overview presentation by the workshop leaders, all tables should be asked to consider one of these innovative practices. Questions to be answered during this 45-minute period are, Do you think this is a good idea? Why or why not? If you were to implement the practice, what benefits would it offer? What challenges would it present? What needs to be taken into account in implementing this practice? *O*ne person from each table should be chosen to speak for the group in the 30-minute report-back portion of the session.

Break-out Sessions: Course Redesign Plans. This session engages participants in an interactive discussion of their course redesign ideas. We again divide the participants into groups of eight, thereby breaking up redesign teams. Each team member presents a five-minute summary of the choice of redesign model and how the team intends to implement "The Essential Elements of Course Redesign" within that model. Other members of the small group provide feedback on the presenter's ideas and gain new ideas for their own redesigns. These discussions also provide an opportunity for participants to ask questions they may have about the redesign process, which can be raised with workshop leaders in the final session.

Preparing the Final Proposal. This session discusses the content, format, and timeline for submitting final proposals. It also covers the NCAT and campus resources available to support proposal development. We require teams to prepare a final proposal according to a specified format comprising both narrative and forms. The final proposal format is described in Chapter XIII of How to Redesign a College Course Using NCAT's Methodology.

Why: We do this to make sure that plans get fully thought out and are complete, to establish comparability among projects in a particular program and among these projects and all NCAT course redesign projects, and to ensure that teams will begin to implement their plans as soon as grants are awarded.

A sample agenda and a list of the logistical tasks the program leaders need to do in preparation for the workshop are included in the appendices.

Provide Ongoing Consultation as Teams Develop Project Plans

As teams develop their full project plans, the program leaders should monitor progress in proposal development and provide individualized consulting for entire teams or individuals working on particular segments. This consulting can occur face-to-face or via email or telephone as desired by the participating redesign teams. NCAT Redesign Scholars can be helpful in this process.

Q: Why do we need to have another workshop? Why shouldn't project leaders simply assign liaisons and meet individually with teams?

A: The workshop accomplishes so many things that individual meetings do not. Requiring *each* team member to make a five-minute presentation of course redesign ideas ensures that all team members are involved in planning at this stage of the process. Meeting individually with the team would likely lead to only the project leader's presenting the ideas. At the workshop, teams benefit from learning how others are approaching their redesign plans, from seeing how others are complying with program requirements and how seriously they are taking the application process, from completing the homework and seeing how others completed it, from receiving feedback on the homework, and from hearing creative ideas about redesign from others that can strengthen their own plans, none of which would occur at individual meetings. Finally, the program leaders benefit from having direct knowledge of the work of all of the teams.

Q: What if a team doesn't do its homework?

A: We cannot know whether all members of a team complete the reading assignments, but we structure the other three tasks to ensure that they will be completed. One of the reasons for requiring submission of the CPT and the Scope of Effort form a week prior to the workshop is to be sure that each team does in fact do its homework. If you do not receive a submission from a team, project leaders should contact that team immediately to find out what's going on. It may be a sign that the team is not taking the process seriously or that the team needs help. You must make it clear that the team must complete the tasks or it will be dropped from the program. Finally, requiring *each* member of the team to make a five-minute presentation to peers ensures that all team members will be involved in planning at this stage of the process.

Q: I'd like to lead the workshop myself or join with NCAT staff and/or scholars to do so. What is the best way for me to prepare myself—because I'm new to the ideas also? What do I do if I don't know the answers to questions that come up about course redesign?

A: Most campus administrators are not knowledgeable about NCAT's course redesign methodology, and even those who are do not have specific experience with conducting course redesigns across multiple academic areas. NCAT is here to help you. We strongly recommend that you engage NCAT staff to conduct the Planning Workshop during the first round of your campus-wide redesign program. An alternative would be to engage one of NCAT's Redesign Scholars who has had experience in course redesign beyond his or her individual course. If you are interested in pursuing either alternative, please contact Dr. Carolyn Jarmon, NCAT vice president, at cjarmon@theNCAT.org.

If you decide to lead the workshop yourself, the NCAT website has an array of free resources for those seeking to implement a successful redesign, including for both two-year and four-year institutions. You should become especially familiar with Chapters IV, V, and VI of How to Redesign a College Course Using NCAT's Methodology. You should refer questioners to either the web resources or relevant Redesign Scholars, who are happy to discuss redesign questions via email or telephone. You should also feel free to contact NCAT if you have questions or for help in pointing people in the right direction.

VIII. Selecting Proposals That Will Succeed

A vital element in the success of a course redesign program is to require *very specific* plans as part of the proposal process. Such an approach ensures that planning will be accomplished and that the redesign teams are clear about what they are going to do before grant awards are made. Teams can then focus on implementing plans that are roadmaps to success.

Program leaders should review the proposed plans carefully. NCAT recommends using the following review process. Each proposal should be read independently by program leaders and rated 1 (strong proposal: no outstanding issues or only minor issues), 2 (potentially acceptable proposal pending resolution of outstanding issues), or 3 (weak proposal: does not meet program guidelines.) Program leaders should then collaboratively create a list of the strengths and weaknesses of each proposal and follow up with each team to clarify any outstanding issues or to help project teams strengthen weak points in their proposals. For proposals rated 1, you need to clarify and resolve any minor issues. For those rated 2, you need to ask for more information, a more complete narrative, revisions of supporting forms, and so on. For those rated 3, you need to focus on the issue that does not meet the program guidelines (e.g., if the proposal lacks a cost reduction strategy, you need to determine whether the team is, in fact, interested in reducing costs) in addition to asking for more information, more narrative, revisions of supporting forms, and so on.

Characteristics of a Proposal Rated 1 (Should Be Accepted)

Appropriate Course Choice. The rationale for the redesign is clear. The proposal includes a clear statement of the problem the redesign seeks to solve such as high DFW rates, space issues, consumes too much faculty time or resources, course drift, or increased demand for the course. The course choice meets the selection criteria in the Application Guidelines, and the proposal includes data that support the choice.

Examples

- An average of 48% of students fail the developmental English course. Assignments and assessments are not consistent among instructors. There is a lack of student engagement in the forms of high absenteeism, frequent failure to complete assignments, low quiz scores, and little involvement in class discussion. The course pedagogy is outmoded: the traditional model of teaching consists entirely of group instruction, yet writing is a highly individualized activity. In addition, the traditional approach to paper grading, though labor-intensive, has not been shown by research to have any positive effect on student writing, and it limits the number of students assigned to each section.

- Incoming students have extremely different backgrounds in chemistry. Typically, at least 10% of the students never had chemistry before, whereas 20% were enrolled in Advanced Placement high school courses or even college-level introductory chemistry. Students often lack successful learning strategies and resist adjusting their study skills as they transition from high school to college. Student success relies too much on rote memorization rather than developing conceptual thinking and problem-solving skills. Student engagement in recitation classes is inconsistent and often inefficient. Despite weekly meetings to adjust efforts and timelines, considerable duplications of effort ensue when instructors individually compile lecture notes, PowerPoint slides, and clicker questions. The chemistry department lost several faculty positions due to budget cuts and hiring-freeze policies. As a consequence, 200- and 300-level courses are currently taught combined as one course.

This practice sacrifices the quality of upper-level education and prevents students from taking 300-level courses as electives if they were previously enrolled in the 200-level course.

Appropriate Model Choice. The redesign model choice is an appropriate one for the discipline, and the proposal includes a rationale for the choice.

Examples

- In choosing the Replacement Model, the university will follow the lead of all prior successful NCAT redesigns in Spanish. The redesigned five-credit course will more than double the number of regular sections and limit enrollment to 20 students per section. Sections will meet physically three times a week, with class time devoted to communicative exercises emphasizing oral skill development. Workbook, grammar, and writing components will be moved online. Students will spend two hours of online practice in grammar—with automated immediate diagnostic feedback—and will write weekly compositions that will be graded semi-automatically with diagnostic feedback. Students will also participate in one hour of language lab weekly.

- The psychology redesign, using the Supplemental Model, is based on the NCAT's Essential Elements of Course Redesign. An active, learner-centered approach will incorporate technology to facilitate a more individualized course experience while simultaneously reducing costs. A student response system will be incorporated into the classroom. Required web activities and practice quizzes will complement course lectures. An early intervention system will target students who are struggling as indicated by attendance, in-class responses, web activities and online practice quizzes. Finally, a team-teaching model will be implemented.

Clear Comparison of Traditional and Redesigned Course Structure. From reading the proposal the and subsequent follow-up, reviewers should be able to state clearly and succinctly how the course operates in its traditional format and how it will operate in its redesigned format with enrollment numbers. This is not as easy as it sounds!

Examples

- The traditional course comprises 18 lecture-based sections of 153 students. Each faculty member chooses the content and method of delivery of course material. In the redesigned course, nine sections of about 300 will be offered. Lecture time will be reduced by 50%, replaced by online activities. Large groups will be divided into 15 smaller, online groups of 20 led by undergraduate learning assistants. During face-to-face classes, groups of 15 will be engaged in active discussion led by undergraduate learning assistants. Students will also be required to engage in low-stakes quizzing with immediate feedback.

- The college's redesign plan collapses the 27 sections of European and US History historically needed to serve general education students into a single European history section and a single US History section, each serving 300 students per semester. In-class time will be reduced from three hours to one hour per week. Students will spend a minimum of two hours per week in a computerized history learning center dedicated to the two courses. At least one hour will be spent on completing online publisher-provided quizzes, map exercises, and chronology work sheets. One hour each week will be spent in online

discussion groups of 20 students each, moderated by virtual preceptors. Students will be able to test their own skills in historical argument and interpretation.

Sound Pedagogical Strategy. The redesign plan is concrete and has a good chance of improving student learning. The plan specifically describes ways the team will foster greater student engagement such as through online quizzes, immediate feedback in software, engaging use of clickers in class, a plan for monitoring student progress, and intervening when necessary. The plan includes assignments that are described clearly and that require critical thinking. The learning materials to be used are well identified.

Examples

- The redesign of the introductory women's studies course will use the Replacement Model. The quality of teaching and learning will improve significantly due to a variety of factors, including adaptation and implementation of materials and ideas already used successfully by prior NCAT projects in the humanities and social sciences. Part of the lecture time will be replaced with required online student activities and discussion. Students will work in small groups, participating in discussions around course topics. They will complete individual and group activities such as virtual field trips or examination of real data on women's issues. To increase student feedback, Blackboard will be used to deliver a series of required, low-stakes quizzes, and personal response systems in the remaining lectures will be used to provide more in-class feedback.

- The planned redesign will enhance the quality of the college algebra experience by motivating students to take an active role in learning and to spend time *working on* rather than *watching* mathematics. Faculty members are constantly frustrated that students in the traditional course are so passive in the classroom and want a cookbook approach to mathematics. Furthermore, with such a large population each semester, hand grading of homework is just not feasible. Therefore, very few students do the work required to master the skills and concepts the course teaches. Online assessment software will provide a tool for continual assessment and immediate feedback. The Emporium Model will also enable students with varied backgrounds to receive individualized assistance at their own pace in a learning center staffed with instructors and tutors. All students will be required to attend the learning center at least two hours per week; thus, many students are likely to spend more time doing mathematics than they are spending in the current model.

Valid Assessment Strategy. From reading the proposal and reviewing the assessment forms and subsequent follow-up, reviewers should be able to state clearly and succinctly how the team intends to compare student learning outcomes of the traditional version with the redesigned version of the course.

Examples

- The plan has a fully described, valid assessment strategy that compares student performance on a common final examination.

- The plan has a fully described, valid assessment strategy that compares two problems for four separate topics on the final exam (representing 80% of the exam) by using a common scoring rubric.

Valid Cost Reduction Strategy. From reading the proposal and reviewing the CPT and subsequent follow-up, reviewers should be able to state clearly and succinctly how the team will reduce instructional costs.

Examples

- The plan has a cost reduction strategy, which is that the full-time faculty will serve more students (N=38), and one adjunct faculty member will no longer teach the course. The cost-per-student will be reduced from $213 to $174, an 18% reduction.

- The plan has a cost reduction strategy, which is to serve more students (N=190) on the same resource base by increasing section size from 77 to 150. The cost-per-student will be reduced from $285 to $218, a 24% reduction.

Cost Savings Plan. The plan describes what will happen to the savings.

Examples

- Cost savings will remain in the psychology department and be used both to support the redesigned course in the future and to support faculty wishing to undergo additional course redesign projects.

- Cost savings will enable faculty to teach other communications courses and reduce the need for adjuncts in times of tight budgets.

Other characteristics of a plan rated 1 include consistent numbers (the numbers correspond throughout the narrative, the assessment forms, and the CPT), a doable plan (the redesign plan can be implemented within the project time frame), and a clear and reasonable project budget.

Characteristics of a Proposal Rated 2 (Needs Further Clarification before Accepting)

Proposals that are rated 2 are those that can be improved by asking the project team to provide more specificity or clarification. The proposal has a lot to recommend it, but it is insufficiently developed or documented. In such cases, the program leaders should discuss the issues with the project teams. If the outstanding issues can be clarified so as to meet the program requirements, the proposal should be accepted. If queries from the program leaders reveal genuine weaknesses that turn the rating into a 3, the proposal should be rejected.

Following are examples of problems we have often found in course redesign plan proposals.

Too General

- The plan for the redesigned course structure is not well-thought-out. Red flag terms such as “accelerated” and “self-paced” are used. Lab time is not required; students may decide when to go to lab.
- The description of what is planned to happen needs greater clarity and more specificity. For example, can 120 students meet in the computer lab at the same time? Is the lab big enough? Is this a good idea?

- It is not clear *how* the team plans to use technology; the comments are very general such as, “We plan to use Blackboard.”
- It is not clear that the redesign plan will lead to greater course consistency, because individual faculty members can still use their own materials if they wish rather than using commonly developed assignments and tests.
- The learning materials seem to be designed primarily by the faculty when commercial software and other materials are readily available.
- The prospective learning materials have been narrowed down, but no specific materials have been selected.
- The plan includes the expectation of the monitoring of student progress, but no clear intervention strategy is described.
- Plans for building consensus are weak. The project team plans to build consensus by using a survey rather than engaging with the campus community.
- The timeline is sketchy; it is not clear whether the team can accomplish in the time allotted all that is needed.

Assessment

- The choice of assessment approach is not clear.
- The assessment forms are not completed correctly.
- The number of students enrolled in the pilot sections is too small and will thus invalidate the assessment.
- The proposal simply states, “There will be a ‘common assessment task’ that all students must complete.” What is that task?

Cost

- It is not clear how the project will reduce cost.
- An enrollment growth scenario is presented but is not supported with historical data or other institutional changes (e.g., curricular changes) that would lead to enrollment growth.
- The cost reduction plan is hypothetical. The savings in faculty time from reducing the number of face-to-face teaching hours, eliminating duplication of labor to prepare materials, and using automated feedback can be allocated to “other courses, thereby reducing the need for additional casual staff employment” or “research projects in the field, thereby strengthening the research capacity of the staff.” The saved time can also be used to go to the beach or plant a garden. Because these reallocations are hypothetical and do not represent a concrete plan, the proposal should not be accepted unless specific decisions have been made about how the saved time will be reallocated to benefit the institution.
- The CPT is not completed correctly.

Project Budget

- The project budget may not cover all that is required based on the activities described in the plan.
- The project budget includes ongoing, operational costs such as training of undergraduate learning assistants or graduate teaching assistants. Those costs should be calculated on the CPT as part of the continuing cost of the course because the costs are ongoing.
- The project budget includes software licenses that should be calculated on the CPT as part of the continuing cost of the course because the licenses are ongoing.

Characteristics of a Proposal Rated 3 (Should Not Be Accepted)

The two most common reasons for rejecting a proposal that NCAT has encountered are (1) the proposal does not meet the program's application guidelines with regard to cost reduction and (2) the proposal is a "plan to plan"—meaning, it is too general and lacks detailed planning.

The Proposal Lacks a Valid Cost Reduction Strategy

The proposal has no cost-reduction strategy that is a product of course redesign and/or it demonstrates a lack of seriousness about cost reduction.

Examples

- The plan is to reduce the number of hours spent by each instructor from 225 to 180 hours, —a reduction of 45 hours, which is 0.028% of an instructor's required workload of 1,595 hours.

- The plan is to reduce staffing by one graduate student, a savings of $7,250 out of a total course cost of $164,638—a 4% savings.

- The plan is to reduce costs by making garden-variety academic decisions. For instance, the institution offered too many sections in the past that didn't fill, making per-student costs high and merely plans to reduce the number of sections offered to fill the sections. This is not course redesign but instead good academic management.

- The plan relies on increased retention as its sole method of reducing costs. Although many course redesigns have produced significant gains in completion rates, especially in mathematics, many redesigns produce relatively modest gain (less than 10%). Even if the course enrollment is large, often you cannot reduce sections (i.e., reduce costs) because the retention improvement is not sufficient to eliminate a section. Even when completion rates improve more than 10%, you must have the ability to actually reduce sections. Sometimes the numbers just won't work. Finally, even if the number of students enrolled in the course is large and you take the necessary steps to reduce the number of sections offered, the impact on cost reduction may be quite small. Retention cannot be relied on as a cost reduction strategy. (See http://www.theNCAT.org/Newsletters/Jul10.html#1 for an expanded discussion of this issue.)

- The plan advances a bogus definition of cost reduction: "cost per successful student." Even though the redesign plan may be more expensive than the traditional model, the argument goes, it is not if you redefine cost reduction. The accepted way of calculating a course's cost per student is to divide the total cost of offering the course by the number of students enrolled in the course. For example, if the traditional course cost is $100,000 per 500 students, the cost per student is $200. If a redesigned course cost were $75,000 per 500 students, the cost per student would be $150. The cost per *successful* student is derived by dividing the total cost of offering the course by the number of students who pass the course. For example, if the traditional course cost is $100,000 per 300 students passing the course, the cost per student is $333. If the redesigned course cost were $130,000 per 500 students passing the course, the cost per student would be $260. The problem with that argument is that institutions are not funded based on *successful* students; they are funded based on *enrolled* students. Students do not pay tuition based on whether they succeed; they pay tuition based on whether they enroll.

The Proposal Is a "Plan to Plan"

Some proposals are so general or so brief that it is not clear what the team plans to do or whether it is possible to actually implement the redesign plan.

Examples

- The proposal fails to address adequately many of the important categories listed in the Final Project Plan Format—specifically the Essential Elements of Course Redesign, a description of the learning materials to be used and a plan to build and maintain ongoing consensus about the redesign. The proposal itself is a plan to plan. It lacks the specificity needed to be fully implemented within the project time frame.

- A lot of decisions are yet to be made. "Existing content across all iterations will be filtered and consolidated, and when appropriate, new content and new learning objects introduced. The syllabus, assessment, and student interaction and engagement activity will be reconstructed in the learning management system. In-class meetings will supplement this; however, careful consideration will be given to reducing the number and frequency and to changing the nature of these face-to-face meetings."

- A lot of decisions are yet to be made. The team plans to retain lectures in a writing course (including vodcasts), even though the team knows that students dislike them. This is a skills-based course requiring as much practice as possible, and a good redesign would focus on that. NCAT knows from years of experience that skills-based courses are best taught in a face-to-face lab setting with lots of personalized support available to students—not in lectures or online.

- At-risk students (not clearly defined) will be identified and sent to do something (what that something is, again, is not described) with learning advisors, who are neither clearly described nor included in any of the cost calculations.

- The changes anticipated in the redesign are minimal: "Classes will meet slightly less: lectures are reduced from 12 to 10, and workshops from 11 to 9. Class sizes are unchanged." The anticipated changes are not clearly described and appear to be a laundry list of possibilities (e.g., "In-class lectures will utilize student response systems, vodcasts, MyCompLab quizzes, and textual materials.")This is not course redesign as we know it. This is only a minor change in the course structure, with the addition of some technology to the existing format.

Q: Do you have examples of good proposals?

A: Examples of good proposals with high levels of planning detail can be found at http://www.theNCAT.org/PlanRes/Proposal%20Examples.htm.

Q: Shouldn't a lot of these issues have been dealt with earlier on in the process?

A: Yes. NCAT's process is designed to develop strong course redesign plans and weed out or discourage weak ones before they reach the final proposal stage. Usually, the final proposals we receive are quite good. But the level of detail we require in a final proposal is much higher than most faculty members are accustomed to producing in writing grant proposals, particularly

in instructional reform. Inevitably, some pieces will be missing or get glossed over. Unfortunately, some faculty teams fail to take the program guidelines seriously—especially in regard to the cost reduction part of the program—until learning their proposals have not been accepted. The program leaders should make every attempt to resolve outstanding issues during the proposal development process but should also be prepared to say no when warranted.

Q: Can a weak proposal produce a strong result?

A: We have never had a weak proposal that was accepted into a program produce positive results—never! In its national programs, NCAT simply does not accept weak proposals. We spend a lot of time working with teams to strengthen weak proposals and turn them into strong redesign plans. We have also conducted programs in partnership with other entities, when we did not have the final decision to accept or reject a proposal. In those programs, we encountered a number of instances when the partner wanted to accept a weak proposal for political reasons (e.g., a state or system that wanted a project at every member institution, an institution that wanted a project in a certain discipline, and so on). In other instances, the partner had announced it would award, for example, 10 grants, but only 8 of the proposals were strong. The decision was made, against NCAT's advice, to accept two additional, weak proposals in order to reach the predetermined number. We repeat: Never has a weak proposal produced a positive result. In just about every case, the project fails to reach full implementation of the redesign plan.

Q: Who should review the full proposals?

A: The project leaders (the full team) should read and rank all of the proposals individually and then meet as a team to discuss the rankings and the proposals. The team should make recommendations to the provost about which proposals should be accepted after working through any outstanding issues. The provost should make the final decision.

Q: How can we make sure certain departments we want represented do get represented even if their proposals are weak?

A: Remember that there are two kinds of weak proposals: the 2s that may need significant work but can be improved within a reasonable time frame, and the 3s that cannot be. If the target department submits a 2, then you should work with the department to strengthen the proposal. But if the department submits a 3, it is not worth the time to work further *in the context of the redesign initiative*. The result will be poor and will undermine the entire program. You should consider working with the department throughout the year to get it ready for a subsequent round.

Q: What if increased retention is a campus priority, and a proposal's cost reduction strategy relies on retention and cites that priority?

A: Increased retention is a very important quality improvement goal at many institutions. It is not a way to reduce costs in the vast majority of cases.

To consider accepting increased retention as a cost reduction strategy, you need to make some demands on the team. You cannot let the team assert that it will reduce costs by meeting the campus priority of increased retention. First, you need to require the course redesign team to project a plausible increase in course completion (e.g., 10% is reasonable; 50% is not). Second, you need the team to show you how it can drop at least one section, given the structure of the

course. For example, a course that enrolls 1,800 students in six sections of 300 each and that improves pass rates by 4.6%, which equals 83 students, cannot eliminate a section. Course completion rates would have to improve by 17% in order to eliminate a section. Third, the changes have to be costed out to decide whether the percentage of reduction is acceptable. For example, an early NCAT redesign enrolled 2,200 students in 25 to 30 sections of 80 to 100 students each. At the time, the total cost of the traditional course was $247,170. University data collected in earlier redesigned courses showed a 7% increase in retention. Applying that increased retention rate to 25 redesigned sections resulted in a one-section reduction (7% of 2,200 students, which is 154 students), amounting to a cost savings of only $8,239 (the total cost of a traditional section, including personnel and classroom space rental)—a 3% reduction. If you're happy with 3% (we are not) and the reduction can be documented, then you should consider accepting the proposal. But remember: in most cases, it's very difficult to meet those requirements.

IX. Monitoring the Redesign Implementations

Implementing a course redesign involves four phases: planning and development, conducting a pilot term, revising the redesign plan as needed based on the pilot experience, and fully implementing the redesign in all sections of the course, including assessing and evaluating the full implementation. The purposes of this part of the program are to implement the sound plans that have been developed and to follow through so as to ensure that adjustments get made where needed, roadblocks get overcome, and models of successful redesigns get achieved.

During the redesign implementation process, it is critical that the program leaders monitor the redesign teams' adherence to the teams' proposals as a way of making sure the teams are actively following their plans for both quality improvement and cost reduction. Based on NCAT's experience with more than 200 large-scale course redesign projects, we know that because of unanticipated issues that can arise, projects can get derailed during the implementation phase. Teams may not know how to respond, and their initial reaction is often to revert to the status quo of the traditional model. At such junctures, teams need to seek advice from experts in course redesign, who can discuss the problems with the teams and offer strategies for resolution. If changes get made that have an impact on either cost reduction or quality improvement, the program leaders need to discuss the implications with the teams and suggest alternative strategies.

We cannot overstate how frequent monitoring and active intervention during the program implementation period greatly increase the likelihood of success.

Throughout the program implementation period, the program leaders should monitor each phase and actively consult with the teams as appropriate. Informal but consistent ongoing progress reporting is important to make sure projects stay on track. In between formal reporting dates, teams should be required to submit regular progress reports to the program leaders via email or face-to-face meetings. The program leaders should review the redesign teams' work and offer suggestions for improvement.

Monitor the Planning and Development Phase

During the six months prior to the pilot term, redesign teams engage in concrete preparation for the pilot. Teams meet and make necessary changes to course content or other aspects of the expected student experience such as modifications to classroom or lab space, to the design of web materials or other student guides, to the planning for student and faculty training, and to data-gathering preparations for effective assessment. And they perform other such activities that must be completed in advance of the pilot term.

Monitor the Pilot Implementation

During the spring term, teams pilot their redesigns with subsets of students and include all or almost all aspects of the redesigns. NCAT recommends that every large-scale redesign conduct a pilot before moving to full implementation. What do we mean by a *pilot*? A pilot involves testing the redesign idea—including most if not all of the important quality improvement and cost-saving characteristics of the planned redesign—with a subset 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 them prior to scaling up to full implementation in all sections of the course. The pilot period is an opportunity for a redesign team to uncover technology issues or any problems that might emerge involving the newly

designed assignments or activities. 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 (1) that important audiences both on and off campus have been informed of changes in the course and (2) 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 have learned that it is much easier to solve problems with 150 to 200 students rather than with 1,000 students.

Conduct Workshop III: Mid-Course Sharing

After the campus pilots have been completed, program leaders should conduct a one-day, face-to-face workshop that provides a forum for teams to share their experiences and learn from one another. Teams share their initial findings regarding learning and retention outcomes, cost containment and implementation issues. Such interim reporting provides an opportunity for self-evaluation so that teams look carefully at what has gone well, at what surprises have required adjustments, and at what kinds of issues still remain to be resolved. This workshop enables teams to benefit from what others have learned and accomplished and to receive feedback from the group as well as from program leaders. Having a workshop that has been planned from the program's launch also encourages project teams to keep on schedule because they know they will have to report publicly on their progress to their peers and the program leaders.

Teams should be asked to complete two tasks in preparation for the workshop.

- Select one representative from the team to speak about the pilot experience.
- Electronically send the pilot assessment and completion reports to the program leaders one week before the workshop takes place.

The program leaders should review the teams' work, assess pilot outcomes, and offer suggestions for improvement and adjustments in preparation for full implementation. The program leaders should also meet with teams individually, if needed, to resolve any particular issues they face and have not been able to overcome.

A sample invitation to the workshop, which outlines those tasks, is included in the appendices.

A sample agenda and a list of the logistical elements of the workshop that program leaders need to accomplish in preparation for the workshop are included in the appendices.

Monitor Redesign Plan Revisions

Conducting the pilot in the spring term gives the team time during the summer to address issues that may have arisen during the pilot. Inevitably, the redesign plan will need to be tweaked so that any problems encountered can be resolved. The team may have to modify and/or add policies and procedures so as to address issues that emerged during the pilot. Training plans may need additional refinement to include any new policies or procedures that got adopted during the pilot. The team should also check with offices on campus to resolve any difficulties that may have been encountered. Some institutions have conducted focus groups with students to uncover problems that can be corrected during this period.

Monitor the Full Implementation

One of the goals of course redesign is to include under the redesign model all of the institution's students who are enrolled in the course. NCAT calls the first term when this occurs *full implementation* of the redesign. During the fall term, teams fully implement the redesign with all students enrolled in the course and include all aspects of the redesign. All students benefit from the new learning environment, and both students and the institution benefit from reduced costs. Course policies and procedures are consistently applied to all students, and all students have an increased opportunity to succeed. Some modifications of the policies and procedures may have to be made, but they will likely be minimal if the team carefully thought its plan through and made corrections after the pilot.

Collect and Review Final Reports

After the first term of full implementation, teams should be required to submit final reports to the program leaders by following a consistent format that facilitates comparison among projects. Examples of final project reports are available on the NCAT website at http://www.theNCAT.org/PCR/Proj_Success_all.html. Follow the links to each project listed under Course Redesign Exemplars.

The program leaders should collect, review, and verify assessment data and cost data from the institutions. Program leaders need to ensure the validity of the assessment results, the accuracy of costing figures, and overall fidelity of the process. They should meet with teams individually if needed to resolve any particular issues the teams face and have not been able to overcome.

A Final Report Format description is included in the appendices.

Conduct Workshop IV: Assessing the Results

After the first term of full implementation, the program leaders should conduct a one-day, face-to-face workshop that serves as a forum for teams to communicate their experiences and learn from one another. Teams will share their findings regarding learning and retention outcomes, cost containment and implementation issues. Such reporting provides an opportunity for self-evaluation so that teams look carefully at what has gone well and what kinds of issues still remain to be resolved. This workshop enables teams to benefit from what others have learned and accomplished and to receive feedback from the group as well as from program leaders. Having a scheduled workshop also encourages project teams to keep on schedule because they know that they will have to report publicly on their progress to their peers and institutional leaders.

Teams should be asked to complete two tasks in preparation for the workshop.

- Select one representative from the team to speak about the full implementation experience.
- Electronically send their final reports to the program leaders one week before the workshop takes place.

The program leaders may want to open this workshop to the broader campus community so that all campus constituencies can learn about the redesign process and outcomes.

A sample invitation to the workshop, a sample agenda, and a list of the logistical elements of the workshop that program leaders need to accomplish in preparation for the workshop are included in the appendices.

Conduct a Program Evaluation

After Workshop IV, the program leaders should conduct an evaluation of the program and prepare a final report. The report should include an assessment of each funded project as well as a review of overall program outcomes and recommendations for expanding the redesign process in the future. The program leaders may want to prepare one version of the report—which should be candid about both the strengths and the weaknesses of the program—for campus executives and one for the broader campus community, which should highlight the positive results achieved as a basis for building support for future redesign efforts. Both the latter version of the report and individual project reports should be added to the program website.

A program evaluation template is included in the appendices.

Q: Will we see positive results from the initial redesign implementations?

A: You can expect mixed results in improving learning and in completion rates, especially in the pilot and sometimes during the first term of full implementation, although many projects show immediate improvements in both areas. Course redesign involves a major change in academic practice with a lot of moving parts. Consequently, projects often encounter issues that need to be addressed during the initial implementations. NCAT's experience has been that despite mixed results in initial implementations, the vast majority of course redesign project leaders are fully supportive of the continuation of their redesigns as captured in the sustainability section of individual project reports. The professional judgment of the faculty is that the redesigns are effective in improving the quality of the course. Greater consistency of content and coverage, valid and reliable measurements of student learning, greater student engagement in course content—all serve to back up those judgments. Project leaders are generally confident that learning-outcomes data will improve as they address the issues that arose in the initial implementations.

Despite mixed results in improving learning and in completion rates, all projects are usually able to reduce their costs. One of the powerful messages of course redesign is that achieving the goal of reduced cost can have a significant impact on an institution's ability to deal with budget crises, serve more students with the same amount of resources, and free faculty to do other institutional tasks—all with no diminution in quality.

Q: What should program leaders be looking for when monitoring the redesign implementations? What are the most likely problems to occur?

A: Unfortunately, things don't always go according to plan. Three NCAT guides focus on the specifics of course redesign: How to Redesign a College Course Using NCAT's Methodology, How to Redesign a College-Level or Developmental Math Course Using the Emporium Model, and How to Redesign a Developmental Math Program Using the Emporium Model. The guides try to anticipate most of the issues that arise during a course redesign, and that's one of the reasons this guide should be used together with those three. Some students resist the new way

of doing things, and some kind of logistical, technological, or facilities problem almost always occurs. Again, this is why you need a leadership team that pays attention to the redesign projects during both the development and the implementation periods: so that the right person can help resolve problems in a timely fashion. Like students who won't ask questions in class, faculty, too, frequently won't ask for help. That's why you need to be proactive in monitoring the projects.

Q: How should we deal with projects that deviate from their approved plans during the implementation period?

A: The program leaders must actively monitor project implementations. Sometimes redesign projects do not follow their plans to improve learning while reducing costs (e.g., they do not intend to fully implement their redesign plans.) When that's happened, NCAT has dropped those projects from the program and/or requested that unspent funds be returned.

X. Maintaining Consensus and Ensuring Sustainability

From working with more than 200 course redesigns, NCAT has found that the most-serious implementation issues encountered have had to do with building and maintaining consensus around the redesigns among all of the stakeholders: students, parents, faculty, professional staff, and senior administrators. The need for shared, campus-wide understanding of the redesign program plan begins when that understanding is developed; it continues through the pilot period as the plan becomes real; it becomes even more necessary during full implementation as more and more students, more and more faculty, and more and more staff get involved; and, equally important, it must continue on an ongoing basis.

Redesigning a course is not simply a *faculty* project but, rather, a solution to a recognized, *institutional* problem. The sustainability of that solution is based on continuing institutional agreement at all levels. Ongoing communication with all stakeholders about the redesign's effectiveness keeps the goals of the redesign program and its outcomes clearly visible. The program leaders need to keep everyone updated on student success rates, student satisfaction, and cost reduction and to remind everyone of the situation prior to the redesign. Even though the program leaders may be familiar with those facts, others in the institution may be new or may not know the history of the reasons the change was made or may be unaware of those reasons.

Some institutions have not encountered such implementation issues because they foresaw them and dealt with them in advance. Others did not anticipate them and had to deal with them in mid-redesign. Some worked on resolving the issues constructively and ended up with successful redesigns; others backslid and abandoned key aspects of their redesign plans as consensus among various stakeholders waned.

Maintain Ongoing Consensus

Program leaders need to pay special attention to how they will achieve ongoing consensus among:

- Senior administrators
- Faculty
- Campus offices

<u>Senior Administrators</u>

Institutional commitment to a course redesign program includes building and sustaining that commitment throughout the life of the program. In the course of implementing a redesign, things happen: lead faculty members leave or retire; departments get reorganized; presidents and provosts get new jobs. Faculty members—on their own—can show and have shown spectacular success in creating highly effective new learning environments, but for those successes to be sustained or for them to have real impact on the institution as a whole, both departmental leaders and institutional administrative leaders need to play active and continuing roles.

You will inevitably encounter problems in implementing your redesign program as you transition to a new form of instruction. Without a full commitment to preserving the key elements of the redesign while addressing problems that may arise, the institution might simply abandon the redesign program, thus forgoing the learning gains or the cost-saving benefits or both.

About half of all institutions that have worked with NCAT cite the need to build institutional commitment to redesign outside their home departments, especially among senior administrators, as one of their most serious implementation issues. Participants frequently cite leadership support and administrative support as factors in sustaining and expanding interest in a redesign. In some cases, redesign was encouraged by system-level leadership; another team noted support by trustees as a factor. Like the building of acceptance within the department, however, the broadening of institutional commitment requires continuing attention and ongoing support even under favorable circumstances.

Examples

> "Our greatest challenge involved institutional support. Some administrators viewed this redesign as a grand experiment or a test case. The redesign has exposed a number of issues that need to be addressed regardless of its success. The university needs to develop—and communicate to parents and students—a coherent and compelling description of our e-learning initiatives that addresses common misconceptions and concerns (e.g., that the university is becoming a distance-learning campus). Far from being an insulated and isolated initiative, this redesign was simply the first of many such efforts. The more the university can do now to learn from and address the larger support and public relations issues raised by this effort, the easier it will be for future redesign teams."

> "In the middle of the redesign, the department of mathematics and computer science became split into independent departments in different colleges. The importance of having strong support from departmental (and university) leadership became increasingly clear after the department was split. Team members ended up in both departments, which created conflicting priorities that affected the pace of redesign. Unlike the joint department head, the new computer science department head was not a member of the redesign team, which resulted in a change in scope because of a decision about how the target courses would be used. The fragility of creating and sustaining major pedagogic change under changes in leadership, which could bring changed priorities, was evident. Existing redesign features at the time of the split have been sustained and more fully developed, but aspects of the redesign that were not yet in place have been problematic to initiate due to changing interests and changing personnel. The team is still working to achieve all of the redesign goals; however, the pace of implementation has been slowed."

> "All three of our campuses successfully implemented the full redesign with all 3,600 students, demonstrating increased student learning gains and decreased costs. Nevertheless, some faculty preferred the old model. In response to that faculty preference, a number of changes occurred on the three campuses. In the term immediately following the successful redesign, the college began offering a choice of either the redesigned or the traditional lecture format at two of the campuses. Altogether, 11 redesigned sections and 10 traditional sections were offered. The third campus developed a model that uses the redesign model but also incorporates pencil-and-paper homework requirements. Topics and term schedules are still coordinated between two of the campuses because some students use labs on both campuses; however, tests are developed independently. Although the workshops on study skills and time management were successful, they are no longer part of the redesigned course. These techniques have been combined into a credit course not applicable to a degree; the course is offered occasionally."

Faculty

The biggest implementation issue most redesign projects face is achievement of consensus on a variety of issues among all faculty teaching the courses in question. Because course development in the traditional format is usually done by a single faculty member working independently on a single section of a course, the redesign of an entire course (all sections) by multiple faculty can present a number of challenges such as reaching agreement on core course outcomes, instructional formats, topic sequences, and a common website. And because instructors are usually not used to talking about such issues, they need time to work through them. As several institutions have commented, however, that can be a *good* problem to have. Collective decision making and departmental buy-in are key factors that lead to successful redesigns.

About two-thirds of institutions have reported challenges around redesign when it comes to achieving faculty consensus within a department. Some of the challenges were attributed to leadership issues—for example, interim department chairs who were reluctant to press resisting faculty. All institutions stress the need for strong leadership and administrative support to overcome those challenges. Some team leaders thought they had solved the problem of faculty buy-in at the outset but were surprised to find they had not communicated as effectively as they thought they had. Team leaders thought they had their colleagues' support, but when the redesign got under way, they discovered that the opposition was stronger than anticipated. Those issues underline the importance of constant communication to check signals and maintain momentum.

Examples

> "Even though the departmental faculty agreed to the redesign initially, once it was accomplished there was some opposition from several faculty members. In retrospect, the team needed to do a better job of communication and inclusion and actively involve the other 16 full-time faculty in improving redesign components and course evolution. This has been largely overcome and is not an issue with adjunct faculty."

> "Due to some instability in leadership in the department during the transition period, there was a large disparity among full-time faculty in the amount each was involved in the process. This led to some not being aware enough of processes and procedures when the semester started. It was expected and understandable that faculty used to lecturing had reservations about adopting the redesign model, but many quickly saw the value to students and embraced their new roles. Some were unable or unwilling to adapt to their new roles."

> "The department has consistently supported redesign. Although there were initial skepticism and inertia to overcome, the result has been a very collegial process and one that has strengthened the department. The adjunct faculty are now fully involved with the implementation, having received extensive training and mentoring."

Campus Offices

Institutions frequently encounter challenges associated with preparing others on campus for the format of redesigned courses. Most such challenges involve advising, wherein advisers do not provide correct information for students or simply misunderstand what the course is about. Program leaders need to constantly and consciously market the redesign to key campus constituencies that know little about the new format and how it differs from more-traditional

offerings. Taking a proactive approach by offering sessions about the redesign model for various campus offices, explaining the benefits of the redesign to student government officers and organizations, using the summer to visit advisers and coaches and describe the benefits of the new approach, and addressing colleagues' concerns immediately can help during the transition period.

As full implementation continues, program leaders cannot assume that those who were informed about the development of the plan at the outset of the pilot still support the redesign. Some campus offices may have thought the redesign was merely an experiment rather than a permanent change. In addition to keeping departmental colleagues informed, program leaders need to be sure that advisers and others who work with students know that their ongoing support is needed.

Examples

> "Although the department worked closely with administrators while planning the redesign, more effort needed to be given to preparing the entire college community for the changes. Even though a thorough explanation of the redesign rationale, benefits, and structure was presented to academic advisers and student service personnel, some were not as supportive as needed to encourage students to accept the change."
>
> "Regular meetings were held with the professional advising staff to share information about the redesign curriculum and course policies. Frequent communication between the department chair and the assistant registrar was also necessary."
>
> "The team made a campus-wide presentation at an in-service training and conducted sessions for adviser training in order to educate the college faculty and staff. Some instructors and advisers still do not understand the redesign model well enough to register students."

Ensure Sustainability

Once a successful pilot has been conducted, once the bumps in the road have been smoothed out, and once full implementation is in place, most institutions expect that sustainability will be a given. After all, the redesign has both improved student success and reduced instructional costs. Why wouldn't the redesign be sustained? Making the assumption that redesign will automatically be sustained without continuing attention will turn out to be a big mistake. Because course redesign is so different from the traditional way of teaching in higher education, it must be continually sold and resold to all campus constituents. As the players change, continued focus on building and maintaining consensus cannot be underestimated.

Executive Leadership. The important role of senior administrators does not end when full implementation occurs. Senior administrators need to be prepared to support the redesign and to guard against the desire of some to backslide to the traditional format. The provost or president will need to remind those wanting to go back to the old way of the reasons the redesign occurred in the first place and of the evidence that proves the redesign's ongoing success.

Faculty Leadership. Strong and continuing faculty leadership of individual course redesigns is crucial to sustainability. Even though those providing the leadership may change, the importance of the role does not. The designated leader must continue to ensure (1) the

consistency of the course among sections and (2) adherence to the policies and procedures established initially. The leader also serves as liaison with other departments and divisions whose support is needed to maintain the redesign.

Ongoing Data Collection. Some institutions believe that demonstrating the initial success of the redesign through data comparisons is sufficient to generate campus-wide consensus. They assume that similar results will continue, but they neglect to continue collecting and analyzing the data that support that continuation. Many institutions have initially seen a small increase in student success after the first term of implementation, but as they continued to tweak the redesign and become more familiar with how to implement it, the number of students successfully completing the course continued to grow. Through ongoing measurement, institutions can see continuing improvement that will help sustain consensus.

Ongoing Communication. It is important to continue communicating with campus offices and with other departments on an ongoing basis to keep them updated on student success rates, student satisfaction levels, and cost-effectiveness and to remind them of the situation prior to the redesign. The program leaders may be familiar with those facts, but others in the institution may be new or may not know the history of the reasons the change was made. Letting them know about the successes other campus projects have achieved using course redesign will make them feel they are not outliers but, rather, part of an important new trend.

Some institutions have developed a handout that explains the new way that redesigned courses are offered. Advisers can use such a handout to assist them as they explain the redesigned courses to students. Students can take the handout with them to review later. Some institutions have worked with the college newspaper to publish an article that explains the redesigns and includes data to demonstrate the successes students are experiencing. Other institutions include a discussion of the redesigned courses in freshman orientation sessions. That gives new students and their family members a clear understanding of how the redesigned courses will work, why the changes were made, and the successes other students have achieved.

Orientation of New Personnel. Changes in personnel are common at most institutions, particularly among part-time instructors. New full-time instructors are also hired from time to time. Turnover at the department chair, dean, and executive levels occurs nowadays more frequently on most campuses than in the past. New faculty and new administrators need a good understanding of why the redesign model is being used, how it works, and the benefits it offers. New faculty, staff, and administrators should learn about the redesign from more than just an email or a data report. They should be invited to visit classrooms or labs and talk with students, tutors, and faculty. They need to see firsthand how the redesign works and how all constituencies are benefiting.

Financial Plan. To ensure long-term sustainability, a financial plan that keeps the necessary technological infrastructure current and functional will be needed. Such things as upgrading or replacing computers, hiring lab tutors, and buying new versions of the commercial software require ongoing investment. Some administrators mistakenly believe that the creation of labs or computer classrooms is a onetime investment. Others may not remember that the original course redesign actually saved resources for the institution while improving student success. Unless administrators are reminded annually how cost-effective the redesign is and what its important components are, they will forget. Some institutions annually calculate how many instructors would have been needed to teach the same number of students in the traditional format, and they compare those costs with the costs of the redesign. Such data provide evidence to remind administrators why providing needed resources is important.

Sustainability Checklist

NCAT recommends that all institutions develop an *annual plan* to sustain the course redesign program. Do you have an ongoing plan to:

- Verify that course redesigns are still achieving their primary goals?
- Collect data on learning outcomes, completion, and cost?
- Disseminate recent learning-outcome, completion, and instructional cost data to all stakeholders in order to document the redesign program's continued success?
- Ensure that cost savings are reallocated according to the original plan?
- Provide support and rewards for sustainable redesigns?
- Refurbish labs and computer classrooms as needed?
- Assist teams if major revisions to the redesigns are needed such as when textbooks or publishers change?
- Orient new students and their parents to the new model?
- Orient and train new department faculty to work in the redesign model?
- Recruit and train tutors and other support personnel?
- Orient new administrators to the redesigns and invite them to visit classrooms and labs?
- Visit campus offices such as those of the registrar, advisers, and information technology staff to ensure their continued support of the redesigned courses?
- Invite representatives of campus offices to visit and observe the redesigns in action?
- Review course policies and procedures and make changes if needed?
- Ensure that the program website is consistently updated?

XI. Building Capacity and Scaling Initial Success

After conducting an initial course redesign initiative, the program leaders need to think about how to scale the redesign effort and how to develop long-term policies and practices that institutionalize redesigned course delivery that maximizes quality and minimizes costs.

Publicize the Results of the Course Redesign Initiative

There are many ways to do this. Here are two suggestions.

- As part of the redesign program, the program leaders conducted a one-day workshop after the first term of full implementation. The workshop provided a forum for teams to describe their experiences, to learn from one another, to communicate learning outcomes and cost reduction data, and to describe their plans for sustaining the redesign.

  That workshop should be replicated with an open invitation to members of the campus community to attend. The campus provost should take the lead in the workshop, emphasizing that course redesign offers a significant way to improve student learning while reducing instructional costs. Such a workshop is very easy to organize because the project leaders have already developed their presentations.

- The course redesign initiative website should include summary descriptions of each project plan and final reports submitted by the project leaders. Both documents should be edited to a similar format to facilitate easy comparison among projects. Final reports should include learning outcomes data, course completion data, cost reduction data, a discussion of the most important pedagogical techniques that led to increased learning, a discussion of the most important cost reduction techniques that led to reduced costs, a discussion of implementation issues encountered during the redesign process, and a discussion of future sustainability of the redesign. See, for example, http://www.theNCAT.org/States/MS.htm and http://www.theNCAT.org/States/ABOR.htm for examples of how to organize such a website.

  The campus provost should send the website's URL with an appropriate cover e-mail to all campus constituencies to raise awareness of the success of the course redesign initiative.

Conduct a Second Round of the Course Redesign Initiative

Whether the initial program was highly successful or moderately successful, it is but a good start. More examples of successful course redesign are needed in order to embed the idea that it is possible to improve student learning while reducing instructional costs at the institution and to effect significant policy change.

The second round may want to favor academic areas that were not represented in the first round.

Create a Redesign Scholars Program Comprising Those Who Have Both Improved Student Learning and Reduced Instructional Costs

NCAT has created a Redesign Scholars Program to link those new to course redesign with more-experienced colleagues to whom they can turn for advice and support. Scholars serve as a resource for new course redesign institutional teams to help such teams apply the principles of course redesign based on the successful experiences of the Scholars. Creating a similar

program on campus would recognize and reward those who have completed successful redesigns and would provide a local resource for new teams. Such a program would also provide links among the various redesigns so that teams can learn from one another as they build a culture that values improving student learning while reducing instructional costs. *Only those who have achieved both goals of the initiative should be selected to be Scholars.*

Be More Purposeful and Actively Involved in Generating Course Redesign Project Possibilities

Here are three suggestions.

- One way that campus leaders can contribute to generating interest in course redesign is to pinpoint academic or resource problems that could be resolved through redesign. By shining a spotlight on courses with high failure rates, for example, campus leadership can help position a new course redesign initiative as an academic problem solver rather than a "technology" grant program. We recommend that, based on a review of data, the provost identify those courses most likely to be significantly affected by course redesign. Through such an approach, the campus can focus institutional attention on identified areas needing improvement.

- The provost's office should work with campus faculty in advance of a next round of the course redesign initiative in order to identify courses with academic or resource problems whose solution would benefit the greatest number of students. All campuses need lead time to organize campus initiatives. Thus, when course redesign grants are announced in future years, the campus will be better prepared to respond as a result of prior planning and discussion.

- The program leaders should conduct a workshop for deans and department heads as part of the second round of a course redesign program. Such a workshop should provide the participants with a detailed look at the first round of projects, and it should point out what worked well, what worked less well, what the challenges were, how problems were solved, and so on. The goal would be to help participants gain expertise in how to think about engaging their constituencies in course redesign and how to take specific actions to move project teams forward.

Build on What Was Learned in the Initiative to Revise Campus Policies and Procedures

During the first round of a course redesign initiative, many campuses discover various policies and/or procedures that inhibit implementation of the program. Those policies and procedures may need careful examination and revision to accommodate the successes achieved through course redesign. In some instances, faculty curriculum committees grant "exceptions" to college policies (or faculty unions grant "exceptions" to the contract) to allow the course redesign "experiments" to take place. If course redesign is to grow and prosper on campus, those exceptions may need to become standard operating procedure. Examples are policies on class size, seat time, work rules, the role of undergraduates in instruction, and the ability of students to continue course work in a subsequent semester. In other cases, the issues may be procedural such as failing to differentiate between enrollment "caps" and actual class enrollment, which results in a failure to meet redesign cost-saving goals. Those procedures need to be changed so that classes reach the desired size and so that cost savings can be achieved. Finally, many campuses have implemented long-standing practices that they believe are required by such external agencies as accrediting associations or federal and state financial

aid agencies. Gaining clarity about actual requirements or negotiating new ways of achieving agreed-upon ends may be necessary.

Conduct Further Studies on Issues That Emerged from the Initiative

Because a course redesign initiative involves paying close attention to what is going on in a course or a group of courses, a number of issues tend to emerge that require further study. There is no doubt, for example, that students who "do the work" succeed in redesigned courses. In many cases, however, a large number of students may still not be completing the course(s) successfully. A remaining issue is how to improve success rates even further by engaging those students who are not engaged. Some campuses have followed up—on the students in a redesigned course who never participate—only to discover that the students have not attended any of their courses. Is that the case for your "no-show" students? Other examples of questions that may require further study include how many students accelerate—that is, finish early? How many students move at a slower pace—that is, finish late? What accounts for the difference? How well do students perform in downstream courses? The initial course redesign period may uncover larger campus issues that need to be investigated and resolved.

Require Course Redesign as Part of the Campus Resource Allocation Strategy

As we said at the beginning of this guide, NCAT views course redesign as a means to an end: the transformation of the campus community's understanding of the relationship between quality and cost. After several rounds of running a grantlike course redesign program, an institution needs to integrate course redesign into its campus resource allocation strategy.

After conducting, for example, three rounds of the program and producing, say, 9 to 15 excellent models that both improve learning and reduce costs, supported by valid and reliable data, institutions should move beyond a demonstration-program mode. They should begin to require all departments to engage in course redesign as part of a campuswide strategy to accomplish the joint goals of improving quality and reducing costs.

That strategy includes rewarding those departments and schools that engage in redesign and penalizing those that do not—by using a combination of carrots and sticks. There are many ways to do this such as creating an incentive fund, cutting those who redesign by a smaller percentage than those who do not during times of budgetary reductions, and funding by a larger percentage those who redesign versus those who do not.

Because institutional circumstances differ, each college or university will need to develop a strategy that fits its particular circumstances.

Here are three descriptions of institutional circumstances and some sample strategies for dealing with them.

- Course redesign results in actual dollars' being freed up for other uses.
- Course redesign enables you to cope with declining resources (e.g., budget cuts, declining revenues, rising costs).
- Course redesign supports growth to meet demand on the same institutional resource base.

Course redesign results in actual dollars being freed up for other uses.

In this instance, cost reduction means reducing the number of non-tenure-track faculty—including instructors, adjuncts, and temporary appointments—and relying more heavily on tenure-track faculty without increasing the latter's workload. Given the high percentage of those types of appointments on most campuses today, those instructors represent a significant portion of the instructional budget. Increasing the percentage of full-time faculty involved in teaching will generally improve quality, especially when it's done in the context of a large-scale course redesign program. At Cleveland State Community College, redesign of the mathematics department resulted in the elimination of adjunct faculty members (a 20% savings in real dollars that could be used for other purposes), the full involvement of the full-time faculty with no increase in workload, smaller classes, and big gains in student achievement.

Sample Strategy. An institution sets a goal of reducing its reliance on temporary instructors and adjunct faculty from 60% to 35% as a way to improve quality and reduce costs. The goal is made clear to the campus community, and course redesign is selected as the way to accomplish it. Nine departments are involved in three rounds of a course redesign program with the specific goals of changing the ratio of tenure track to non–tenure track faculty and producing excellent models that show that this can be done. Both faculty and students are satisfied with the new mode of instruction. Campus leaders then turn to the departments that did not participate in the program and say, essentially, "We are cutting your temporary-instructor allocation by 25%. We want you to follow the examples that have occurred on campus. We will support you throughout the process, but you must do it." Campus leaders will need to make a number of decisions about the funds that will be saved. For example, should you let the funds stay entirely in the departments? Should you split the funds with the departments in some way? Should you give raises as an incentive to participate? Again, different institutional circumstances will lead to different decisions.

Course redesign enables you to cope with declining resources.

For many colleges and universities, the financial environment in which they must operate is one of declining resources. Public institutions face the need to do more with less. All but the most privileged private institutions face rising costs and declining revenues. How to maintain quality in the face of less-than-desirable financial circumstances is the challenge for most of higher education. Course redesign offers a proven way to do so. The University of Southern Mississippi, for example, was able to deal with severe budget cuts during its course redesign initiative. Despite losing positions across the institution, the departments that redesigned their courses were able to manage the cuts with no diminution in quality.

Sample Strategy. After receiving a state-mandated budget cut of 5%, an institution sets a goal of maintaining the same number of program and course offerings at the same level of quality despite its decreased resource base. The goal is made clear to the campus community, and course redesign is selected as the way to accomplish it. Nine departments had been involved in three rounds of a course redesign program with the specific goals of reducing costs by 30% and producing excellent models that show this could be done. Both faculty and students are satisfied with the new mode of instruction. Campus leaders then turn to the departments that did not participate in the program and say, essentially, "We want you to follow the examples that have occurred in the course redesign program. We will support you throughout the process, but you must do it." Departments that redesign their courses would have their budgets cut less (0 to 2%) than those that do not; the latter would be cut by, say, 10%. Rewarding those who redesign and

punishing those who do not will eventually bring all but the most recalcitrant around to the new way of offering courses.

Course redesign supports growth to meet demand by way of the same resource base.

A significant number of institutions face greater demand for particular courses or programs than they are able to meet on their current resource bases. Still others want to expand their offerings to serve new student populations (graduate students, online students, and so on) and/or generate additional revenue but are unable to do so because of limited resources. Course redesign enables an institution to grow—without requiring an increase in resources. For instance, the University of Mississippi redesigned its mathematics department. Prior to the initial redesign in academic year 2000/2001, the department offered only 13 courses annually, had 45 math majors, and a doctoral program on probation. After the department redesign was complete in 2006/2007, the math department was able to offer 28 courses annually, had 81 math majors and 20 doctoral students, and a program no longer on probation. In another example, cost savings produced by a redesign of Women in Society at Arizona State University enabled the department to accommodate new student growth during a time of retrenchment and to create and expand a new graduate program. Whether it involves initiating new programs, clearing academic bottlenecks, or enrolling more students in current offerings, course redesign enables institutions to grow—even in times of relative scarcity.

Sample Strategy. An institution sets as its goal the ability of all students to graduate within two or four years, depending on the type of institution, unless the delay is caused by a student's personal circumstances. The goal is made clear to the campus community, and course redesign is selected as the way to accomplish it. Nine departments are involved in three rounds of a course redesign program with the specific goal of breaking up academic bottlenecks that are slowing down students' ability to graduate on time. Prior to the program's launch, data are collected to identify which departments and/or courses are creating the bottlenecks, whether the reason is academic (high failure rates), or financial (insufficient resources to offer enough sections and/or courses). Campus leaders then turn to the departments that did not participate in the program and say, essentially, "We want you to follow the examples that have occurred on campus. We will support you throughout the process, but you must do it. If you do not make the necessary changes, your department will lose its ability to receive new equipment, travel to conferences, take sabbaticals, and so on. Again, different institutional circumstances will lead to different incentives and penalties that can be applied. If a department is already well managed and is acting responsibly both academically and financially, it would be exempt from the initiative.

Initial course redesign programs rely on a single course redesign to demonstrate that it is possible to improve quality while reducing costs and to create successful models for others. When moving to requiring course redesign as part of the campus resource allocation strategy, you need a strategy for a whole department. Sometimes the redesign of a large introductory course will free sufficient resources to accomplish the campus goal. Sometimes a large number of courses may need redesign. Departments must make choices about which courses should be redesigned to meet the campuswide goal in the context of the institution's individual circumstances.

To paraphrase former Citibank chairman Walter Wriston, the job of campus leadership is to create wealth, not to allocate shortages. Course redesign enables you to create that wealth, especially when you integrate redesign into the overall campus resource allocation strategy.

APPENDIX A – PLAN OF WORK
[INSTITUTION] Course Redesign Initiative

This Plan of Work is designed to identify an explicit set of activities with a timeline that will ensure that all members of the [INSTITUTION] Course Redesign Initiative (ICRI) team are clear about what will be accomplished and by whom.

This Plan of Work consists of six stages, each of which is discussed more fully below:

Stage #1: Program Development
Stage #2: Building Awareness and Commitment
Stage #3: Orientation, Selection, and Training of Participating Course Redesign Teams
Stage #4: Individualized Consultation during Planning Phase
Stage #5: Redesign Implementation
Stage #6: Capacity Building and Scaling

Stage #1: Program Development

Prior to the program's launch, the ICRI team will engage in a series of program development tasks. NCAT's methodology will be adapted to [INSTITUTION] and the problems it seeks to solve. A program structure will be developed that includes grant strategies for redesign teams, participation guidelines and a plan to bring extensive visibility to the program at all levels of [INSTITUTION].

Step 1: Program Design. [INSTITUTION] will work out the details of the program structure, making any needed modifications to NCAT's general approach in order to fulfill [INSTITUTION's] priorities and develop a strategy for publicizing the program.

Step 2: Data Collection. [INSTITUTION] will collect data about the potential courses to be redesigned (e.g., top 25 in enrollment). Data will include the total enrollment in each course and the successful completion rates (C or better) in each course for the most recent fall term for which data are available.

Step 3: Program Structure. [INSTITUTION] will discuss and resolve the decisions listed in Chapter III that form the basis for customizing the redesign program according to [INSTITUTION's] individual goals and objectives. [INSTITUTION] will then develop (1) a Call to Participate directed toward all members of the campus community, (2) Application Guidelines directed toward those who are interested in applying to participate, and (3) a Publicity Plan. Both the Call and the Guideline will be issued by [INSTITUTION].

Stage #1 will be completed by 11/1/15.
Outcome: [INSTITUTION] redesign program established.

Stage #2: Building Awareness and Commitment

Because the goals of the program are to build capacity and awareness in addition to redesigning specific large-enrollment courses, [INSTITUTION] will engage both faculty and administrators throughout a three-phase process: an initial education and commitment-building phase, a well-structured planning phase, and a comprehensive implementation phase. Throughout the process, [INSTITUTION] will emphasize building

awareness among and communicating results to both the [INSTITUTION] and national higher education communities.

Step 1: Campus Leadership Consultation. On [DATES], program leaders will meet with campus administrators and faculty leaders. The purpose of the meetings will be to explain the course redesign concept and its benefits and to enlist the support and leadership of those parties. Because institutional leadership is key to the success of a course redesign initiative, the meetings will help ensure that key leaders will support the new initiative. When the [INSTITUTION] senior administration is actively in favor of the initiative, it indicates to all campus constituents the importance of the program.

Step 2: Program Visibility. [INSTITUTION] will generate interest in the program in multiple ways, including (1) creating a website dedicated to the program linked to NCAT's national efforts that will provide an ongoing method for the [INSTITUTION] community and other stakeholders to know the status of the initiative and to be aware of deadlines, workshop plans, and so on; (2) building a database of the names of those who will receive information and updates about the program throughout its duration; and (3) developing other communication mechanisms such as broadcast emails or a newsletter dedicated to the effort as appropriate. Throughout this stage, [INSTITUTION] will answer questions as they arise. These communication mechanisms will be established by 11/1/15.

Step 3: Distribution of Call to Participate. The Call to Participate will be drafted by [INSTITUTION] by 9/8/15 and circulated to the ICRI team for additions and revisions as needed to be sure that the Call is well suited to the goals of the [INSTITUTION] program. The Call will be issued by the campus provost to the [INSTITUTION] community by 10/1/15 and will include information about the Orientation Workshop described next.

Step 4: Orientation Workshop. NCAT and/or program leaders will conduct a one-day, face-to-face workshop open to anyone interested in submitting a course redesign proposal or learning more about course redesign. 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 basic planning steps as well as how to adapt NCAT's redesign methodology to the needs of their particular institution. Workshop topics will include:

- *An Introduction to Redesign*. Presents an overview of the redesign methodology, its purpose, the premises upon which it has been developed, the strategies it employs, and the planning process.
- *Case Studies in Redesign*. Engages participants in an interactive application of course redesign models to institutional cases.
- *Course Readiness*. Includes 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 NCAT's Cost Planning Tool, which 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.

Participants will be expected to have completed some assigned reading about course redesign developed by NCAT prior to the workshop.

The Orientation Workshop will occur on 11/15/15 from 10 a.m. to 4 p.m. at [PLACE].

Step 5: Distribution of Application Guidelines. Application Guidelines will be drafted by 10/15/15 and circulated among ICRI team members for additions and revisions as needed. They will be available to the [INSTITUTION] community at the time of the Orientation Workshop. The Guidelines will include the overall goals and focus of the ICRI, the timeline for applying, the expectations to be met by applicants at each step of the application process, and information regarding the kinds of grants and other assistance that will be available through the entire redesign process. The idea is to establish an atmosphere of competition so that campus constituencies will strive to be selected to participate in the program. Establishing a competition also conveys the message that the program is highly valued.

Stage #2 will be completed by 11/15/15.
Outcome: Awareness of the program throughout the [INSTITUTION] community and interest in participating among many departments and programs.

Stage #3: Orientation, Selection and Training of Participating Course Redesign Teams

The purpose of this stage is to ensure that course redesign teams are created that are clear about what they are trying to accomplish and how they intend to achieve it. [INSTITUTION] will manage the program application and selection process and will work with teams to develop full project proposal plans.

Step 1: Establish Course Redesign Teams. Participants will be asked to establish redesign teams and to think carefully about which courses are good candidates for redesign at their institution. Teams should include faculty experts, administrators, technology professionals and assessment experts.

Step 2: Establish Readiness to Participate. Those interested in participating in the redesign program will complete a Course Readiness Instrument. Team responses to the Course Readiness Criteria will be due 1/15/16 and will be submitted electronically. ICRI team members will review the responses and select teams to be invited to the Planning Workshop described later. The ICRI team will send feedback to those submitting readiness criteria, asking for more information if needed and advising weaker applicants about what they need to do to be ready.

Step 3: Publicity. [INSTITUTION] will publicize through all available communication channels those who submitted responses to the readiness criteria and those who get selected to move on to the next stage. The message: it's a privilege to have been selected, and we applaud their success.

Step 4: One-Day Planning Workshop for Course Redesign Teams. NCAT and/or program leaders will conduct a one-day Planning Workshop for course redesign

teams. Teams will complete three activities prior to the workshop: a draft of parts of the Cost Planning Tool (CPT) and of the Scope of Effort form, which will be reviewed by NCAT staff and/or program leaders prior to the workshop, and an outline of their redesign plan. Workshop agenda topics will include identifying academic problems and resource problems, establishing academic goals and resource goals, developing an assessment plan, developing a project implementation plan, completing the CPT, and establishing a project budget.

The Planning Workshop will occur on 2/28/16 at [WHERE].

Stage #3 will be completed by 3/1/16.
Outcome: Potential redesign projects identified.

Stage #4: Individualized Consultation during Planning Phase

Successful redesign requires the development of a detailed plan for improved learning outcomes and a cost analysis of the traditional course and the redesigned course. The analysis provides a clear context for understanding how an institution uses its resources (human as well as other resources) and how these might be more effectively deployed for greater benefit to all. Teams of faculty, administrators, assessment professionals and technology staff will work in consultation with the ICRI team to understand the student outcomes expected from the course redesign and how the outcomes will be measured. Teams will work collaboratively to determine the kinds of tasks that must be performed by faculty, those that can be done by effective use of information technology, and finally, those that can be done by people other than faculty.

Step 1: Ongoing Consultation to Develop Project Plans. As teams develop their full project plans, the ICRI team will monitor progress in proposal development and provide individualized consulting for entire teams or individuals working on specific segments. Project teams will develop and submit final proposals by 7/1/16 by following a specific proposal format.

Step 2: Plan Review and Ongoing Feedback. The ICRI team will review plans (both drafts and final proposals) and provide individualized consultation for campus teams of faculty, administrators, assessment professionals, and technology staff as they develop their project plans. A key to success is to require very specific plans as part of the proposal process, which means that planning will be accomplished *before* grant awards are made. Such an approach makes sure the redesign teams are clear about what they are going to do and enables them to focus on implementing plans that are road maps to success.

Step 3: Selection. The ICRI team will review the proposals and make a final selection. Grant recipients will be notified by 7/15/16. To strengthen weak points in the plans and clarify data collection issues such as student learning assessment and cost analysis, ICRI team members will follow up with teams after team selection.

Step 4: Publicity. [INSTITUTION] will publicize through all available communication channels those who submitted proposals and those who get selected to participate in the program. Again, the message is: It's a privilege to be selected, and we applaud your success.

Stage #4 will be completed by 7/15/16.
Outcome: The desired number of completed redesign project plans with high likelihood of success.

Stage #5: Implementation

The purpose of this phase is to implement the sound plans that have been developed and then follow through to ensure that adjustments get made where needed, that roadblocks get overcome, and that models of successful redesigns get achieved.

Step 1: Implementation Consultation and Ongoing Technical Support. During the redesign implementation process, the ICRI team will monitor course redesign teams' adherence to their proposals to be sure that teams are actively following their plans for both quality improvement and cost reduction, providing individualized assistance as needed. If changes get made that have an impact on either cost or quality, the ICRI team will discuss the implications with the teams and suggest alternative strategies. NCAT staff and NCAT Redesign Scholars are available to work with participants by sharing lessons learned from other course redesign efforts, offering suggestions, and helping them overcome roadblocks that threaten innovation.

Step 2: An Active Communications Plan. [INSTITUTION] will continue building a comprehensive website by adding project descriptions and progress reports and will engage in other awareness-raising activities to make sure information gets communicated on a timely basis to all campus constituencies. Active communication is crucial to ensuring that efforts do not get duplicated, that lessons learned get shared, and that course redesign experiences can be scaled to produce more quality improvements and cost savings.

Step 3: Preparing for Pilots. During summer and fall 2016, project teams will engage in concrete preparation for a pilot term with some subset of the students in the course. Teams will meet and make necessary changes to (1) the course content or other aspects of the expected student experience such as any modifications needed to the space for the course, (2) the design of web materials or other student guides, (3) planning for student and faculty training, (4) data-gathering preparations for effective assessment, and (5) other such preparations that must be completed in advance of the pilot term. Throughout this period, the ICRI team will consult with project teams as appropriate.

Step 4: Pilot Phase. During spring 2017, the selected projects will conduct pilot implementations of their redesigns. The ICRI team will monitor pilot implementation progress and consult with teams as appropriate. Teams will be required to submit to the ICRI team regular progress reports that include assessment data in a consistent format that facilitates comparison between projects. The ICRI team will review the redesign teams' work and offer suggestions for improvement.

Step 5: Mid-Course Sharing Workshop. After completion of the campus pilots, the ICRI team will conduct a one-day, face-to-face workshop that will provide a forum for project teams to share their experiences and learn from one another. Teams 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 the ICRI team. The ICRI team will review the teams' work, assess the pilot outcomes, and offer suggestions for improvement and adjustments in preparation for full implementation. The ICRI team will meet with teams individually, if needed, to resolve any particular issues they face and have not been able to overcome. This workshop will occur in June 2017.

Step 6: Full Implementation. During fall 2017, teams will fully implement the redesigned courses and collect assessment data. The ICRI team will continue to monitor and support redesign teams as the course moves to full implementation, consulting with teams or individual team members as appropriate.

Step 7: Progress Reporting. After the first term of full implementation, the ICRI team will collect, review, and verify assessment data and cost data from the teams. The ICRI team needs to be sure of the validity of the assessment results, the accuracy of costing figures, and the overall fidelity of the process. Ongoing progress reporting is important to make sure plans stay on track and desired outcomes get achieved and are valid.

Stage #5 will be completed by 12/31/17.
Outcome: The desired number of fully implemented course redesigns.

Stage #6: Capacity Building and Scaling

Throughout the course redesign process, the ICRI team will work to build capacity at all institutional levels so as to manage and support subsequent redesign efforts.

Step 1: Assessing the Results Workshop. After the first term of full implementation, the ICRI team will conduct a one-day, face-to-face workshop as a forum for teams to describe their experiences and learn from one another. Teams will share their data regarding learning and retention outcomes and cost reduction as well as their plans for sustainability. This workshop may be open to the broader [INSTITUTION] community so others can learn about the redesign process and outcomes. This workshop will occur in April 2018.

Step 2: Publicity. Throughout the implementation phase, the ICRI team will communicate program progress and results through all available communication channels.

Step 3: Program Evaluation. The ICRI team will meet with [INSTITUTION] leadership (e.g., president's cabinet) to assess what happened and why and to establish future plans. The ICRI team will provide advice about how course redesign efforts could be proliferated throughout [INSTITUTION].

Step 4: Building Internal Capacity. In addition, the ICRI team will advise [INSTITUTION] leadership on how to scale the redesign effort and develop long-term policies that encourage institutionalized course delivery mechanisms that maximize quality and minimize costs.

Stage #6 will be completed by 8/1/18.
Outcome: Institutional experience and capacity to improve the quality and reduce the instructional costs of more courses.

Timeline Summary

Stage #1: Program Development

September 1, 2015	Program Development Begins
September 8, 2015	Draft Plan of Work
September 8, 2015	Draft Call to Participate
October 1, 2015	Plan of Work Finalized
October 1, 2015	Call to Participate Finalized
October 15, 2015	Draft Application Guidelines
November 1, 2015	Application Guidelines
November 1, 2015	Communications Mechanisms Established

Stage #2: Building Awareness and Commitment

October 1, 2015	Call to Participate Issued
November 15, 2015	Workshop #I
November 15, 2015	Application Guidelines Issued

Stage #3: Orientation, Selection, and Training of Course Redesign Teams

January 15, 2016	Responses to Course Readiness Instrument Due
February 1, 2016	Course Redesign Teams Invited to Workshop #2
February 28, 2016	Workshop #2

Stage #4: Individualized Consultation during Planning Phase

March–June 2016	Course Teams Develop Final Plans
June 10, 2016	Course Teams Submit Draft Cost Planning Tools
July 1, 2016	Course Teams Submit Final Proposals
July 15, 2016	Grants Awarded

Stage #5: Redesign Implementation

Summer and Fall 2016	Project Planning and Development
Spring 2017	Course Redesign Pilots
June 2017	Interim Project Reports Due
June 2017	Workshop #3
Summer 2017	Course Plan Revisions
Fall 2017	Course Redesign Full Implementations

Stage #6: Capacity Building and Scaling

March 15, 2018	Final Project Reports Due
April 2018	Workshop #4
Summer 2018	Dissemination of Results
Summer 2018	Program Evaluation
August 1, 2018	Program Concludes

APPENDIX B – PUBLICITY PLAN
[INSTITUTION] Course Redesign Initiative

Goal: To generate awareness of and bring visibility to the [INSTITUTION] Course Redesign Initiative at all campus levels.

- Identify each person who will be kept abreast of the program.
  August–September 2015

Campus Constituents
Faculty members
Administrators
Professional staff
Campus newspaper
Board members

External Constituents
Local press
National press
State policy makers
Peer campuses

- Create a database of the names of those who will receive information and updates about the program throughout its duration.
  August–September 2015

- Announce the program to external constituents.
  October 1, 2015

- Distribute the Call to Participate to campus constituents.
  October 1, 2015

- Send a broadcast email or newsletter to campus constituents.

  During the selection stage

  - ✓ Describe Workshop #1 and announce who submitted responses to the readiness criteria and who were selected to move on to the next stage.
    February 1, 2016

  - ✓ Describe Workshop #2, including the potential course redesign projects.
    March 1, 2016

  - ✓ Announce who was selected to participate in the program and include one-paragraph summaries of the course redesign projects.
    July 15, 2016

During the implementation stage

- ✓ Disseminate summaries of project progress reports.
  October 2016
  January 2017
  April 2017
  October 2017
  January 2018

- ✓ Describe Workshop #3 and the project outcomes from the pilot stage.
  July 2017

- ✓ Describe Workshop #4, the projects' final outcomes, and lessons learned from the program.
  April 2018

- Send a broadcast email or press release to external constituents.

  - ✓ Describe Workshops #1 and #2, including the potential course redesign projects.
    March 1, 2016

  - ✓ Announce who was selected to participate in the program and include one-sentence summaries of the course redesign projects.
    July 15, 2016

  - ✓ Summarize the activities that have occurred since participants were selected and the project outcomes from the pilot stage.
    July 2017

  - ✓ Summarize the activities that have occurred since the pilot stage, the projects' final outcomes, and lessons learned from the program.
    April 2018

APPENDIX C – CALL TO PARTICIPATE
[INSTITUTION] Course Redesign Initiative

[NAME], provost and vice president for academic affairs, invites participation in a new campus-wide initiative to redesign large-enrollment, multi-section undergraduate courses using technology-supported active-learning strategies. The goals are to achieve improvements in student-learning outcomes and reductions in instructional costs. During the period [2015–18], the program expects to support [five] course redesign projects.

The goals of the program are to

- Adopt new ways to improve student-learning outcomes
- Demonstrate the improvements by way of 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 [INSTITUTION's] faculty and staff to continue the redesign process on an ongoing basis

Orientation Workshop*

An orientation workshop will be held on November 15, 2015, from 10 a.m. to 4 p.m. at [PLACE]. It will feature Dr. Carolyn Jarmon, vice president of the National Center for Academic Transformation (NCAT) or program leaders] who will discuss NCAT's successful national and state course redesign programs, on which the [INSTITUTION] initiative is based. The purpose of this workshop is to offer all interested members of the campus community the opportunity to learn about the program and why they might want to participate.

*Attendance at the 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 February 28, 2016.

BACKGROUND

[INSTITUTION], like academic institutions throughout the United States, 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 an 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 [INSTITUTION], 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 [INSTITUTION], like most, has 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 by using technology to achieve quality enhancements as well as cost savings. In the seminal Program in Course Redesign, 30 institutions were selected to participate from among hundreds of applicants in a national competition. Each institution redesigned one large-enrollment course to increase quality while simultaneously reducing instructional costs through the use of technology. Those 30 institutions represented 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, those kinds of courses have the potential of generating significant cost savings and of 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 those courses is key to student progress toward a degree. High failure rates in those courses—typically 15% at research universities, 30 to 40% at comprehensives, and 50 to 60% at community colleges—can lead to high dropout rates in the first and second years of enrollment.

NCAT required each of the 30 institutions participating in the Program in Course Redesign to conduct a rigorous evaluation of learning outcomes as measured by student performance and achievement. National assessment experts provided consultation and oversight regarding those assessments so as to maximize validity and reliability.

The findings of the Program in Course Redesign were that:

- Of the 30 redesigns, 25 improved learning; the remaining 5 showed learning outcomes equivalent to traditional formats.
- Of the 24 projects that measured retention, 18 resulted in reductions in drop-failure-withdrawal rates.
- 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 and faculty satisfaction with the mode of instruction.

While each of the 30 institutions participating in the Program in Course Redesign had complete freedom regarding how to redesign courses to increase quality and reduce costs, a number of common elements emerged.

- *Whole-Course Redesign*. In each case, the whole course—rather than a single class or section—is redesigned. Faculty members begin by analyzing the amount of time each person involved in the course spends on each kind of activity. Such an 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.

- *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.”

- *Computer-Based Learning Resources*. Instructional software and other web-based learning resources have important roles in engaging students with course content. Resources include tutorials, exercises, and low-stakes quizzes that provide frequent practice, feedback, and reinforcement of course concepts.

- *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 and according to scheduled milestones for completion—rather than by class meeting times.

- *On-Demand Help*. An expanded support system enables students to receive assistance from a variety of people. Helping students feel they are part of a learning community is critical to their persistence, learning, and satisfaction. Many projects replace lecture time with individual and small-group activities that meet either (1) in computer labs staffed by faculty, graduate teaching assistants, and/or peer tutors or (2) online, thus providing students more one-on-one assistance.

- *Alternative Staffing*. Various instructional personnel in addition to highly trained, expert faculty constitute students’ 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) when appropriate, projects increase the number of hours during which students can access help, and they free faculty to concentrate on academic rather than logistical tasks.

NCAT has now worked with more than 200 institutions to redesign large-enrollment courses at all levels of the undergraduate curriculum. Learning outcomes have improved in 72 percent of redesigns, with the remaining 28 percent producing learning equivalent to traditional formats. On average, costs reduced by 37 percent in redesigned courses, with a range of 9 to 77 percent. Based on the participating institutions’ experiences, 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 (1) a number of proven approaches to assessing student learning and (2) a variety of strategies for overcoming 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 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 enables faculty and their institutions to achieve the things on their wish lists: what they would like to do if they had additional resources.

Institutional participants have used cost savings:

- To offer additional or new courses that previously could not be offered
- To satisfy unmet student demand by serving more students on the same resource base
- To break up academic bottlenecks—courses that delay students' progress in a subject area or program because the programs are oversubscribed
- To increase faculty released time for research, renewal, or additional course development
- In combinations of the above

Further information about NCAT and its course redesign programs is available at http://www.theNCAT.org.

THE [INSTITUTION] PROGRAM

[INSTITUTION] will build on the successful models and lessons learned from NCAT's national and state programs to create its own course redesign program for multi-section, large-enrollment courses. As part of that program, [INSTITUTION] will develop internal capacity to support the course redesign process on an ongoing basis.

Program Focus: Large-Enrollment Undergraduate Courses

In order to have maximum impact on student learning and achieve the highest possible return on the [INSTITUTION'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. Introductory courses are good prospects for technology-enhanced redesign because they have more or less standardized curricula and outcomes that can be delineated more easily. They also serve as foundation studies for future majors. Successful learning experiences in introductory courses influence students to persist in key disciplines like the sciences. Finally, because introductory courses are feeders to other disciplines, success in them will help students more easily 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 November 15, 2015, from 10 am to 4 pm at [PLACE]. Dr. Carolyn Jarmon, NCAT's vice president, or program leaders] 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 campus 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 courses.

Workshop topics will be:

- *An Introduction to Redesign*. Offers an overview of the redesign methodology, its purpose, the premises upon which it has been developed, the strategies it employs, and the planning process.
- *Case Studies in Redesign*. Engages participants in an interactive application of course redesign models to institutional cases.
- *Course Readiness*. Includes 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 NCAT's Cost Planning Tool, which 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.

The outcome of the workshop will be that participants will have learned 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.

- *An Overview of Course Redesign*
  This article provides a brief overview of NCAT's course redesign methodology and outcomes.

- *Improving Learning and Reducing Costs: New Models for Online Learning*
  This is an edited version of a September/October 2003 *EDUCAUSE Review* article

that describes the six redesign models that have emerged from NCAT's course redesign programs.

- Chapters I and III of How to Redesign a College Course Using NCAT's Methodology
  This is a summary of the redesign techniques that are essential to improving student learning while reducing instructional costs.

- Application Guidelines
  This document tells how to apply to participate in the Course Redesign Initiative. Please pay particular attention to Stage Two: Identifying the Course.

Who Should Attend?

All those interested in submitting grant proposals for this program must attend this workshop as well as the follow-up workshop scheduled for February 28, 2016. However, participants who attend the workshop are *not required* to submit a proposal. Participants may be faculty, professional staff, campus administrators, or others. The workshop will help prospective applicants decide which courses are the most ready to be redesigned.

To Register

Send an email to [NAME] at [EMAIL ADDRESS]:

1. Subject line: Registration for Course Redesign Workshop

2. Include the following information:
- Your name and title
- Academic unit
- Phone
- Email address

3. You may register multiple attendees from the same academic unit in a single e-mail by including name, phone, and email address for each attendee.

Location

The workshop will be held at [PLACE].

FOR MORE INFORMATION

For further information about the [INSTITUTION] Course Redesign Initiative orientation workshop, contact:

[NAME
PHONE
EMAIL ADDRESS]

APPENDIX D – APPLICATION GUIDELINES
[INSTITUTION] Course Redesign Initiative

[NAME], provost and vice president for academic affairs, invites participation in a new campuswide initiative to redesign large-enrollment, multisection undergraduate courses by using technology-supported active-learning strategies. The goals are to achieve improvements in learning outcomes and reductions in instructional costs. During the period 2015–18, the program expects to support [five] course redesign projects.

The goals of the program are to

- Adopt new ways to improve student-learning outcomes
- Demonstrate those improvements by way of rigorous assessment
- Reduce institutional costs
- Free up instructional resources for other purposes
- Develop the internal capacity of [INSTITUTION's] faculty and staff to continue the redesign process on an ongoing basis

[INSTITUTION] will build on the successful models and lessons learned from course redesign programs conducted by the National Center for Academic Transformation (NCAT).

It is important to remember what NCAT means by course redesign. Course redesign is the process of redesigning whole courses (rather than individual classes or sections) to achieve better learning outcomes at a lower cost by taking advantage of the capabilities of information technology. Course redesign is not just about putting courses online. It is about rethinking the way we deliver instruction, especially large-enrollment core courses, in light of the possibilities that new technology offers.

The high level of success achieved in NCAT's course redesign programs can be attributed to selecting participants who were ready to succeed, teaching them the planning methodology and actively supporting them as they developed 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 and disciplines. In the [INSTITUTION] program, we will replicate that process by providing prospective participants with a variety of planning resources through a series of workshops and consultations.

Following an orientation workshop on November 15, 2015, described in the Call to Participate, the program will follow a seven-stage application process.

Stage One: Establishing Course Redesign Teams

The first step in developing a redesign plan is to form a course redesign team. Successful course redesign is the product of a team effort. It is neither a faculty project nor an administrative project nor a professional staff project. It takes *all* of those people—because it is a team effort.

Those interested in participating in the program should establish redesign teams that include the following types of people.

- *Faculty Experts.* Course redesign requires that faculty experts explicitly identify a course's desired learning outcomes and agree on course content. Most courses appropriate for course redesign are typically taught by more than one faculty member. To ensure course consistency, faculty experts must work together on the redesign—resolving any differences in how the course will be offered—and must collaboratively plan the most effective way to accomplish the redesign goals.

- *Administrators.* Because redesigns affect multiple sections, large numbers of students, and academic policies and practices, it is important that the team involve academic administrators. The level of those administrators will depend on the organization of the institution and the institution's size. For some, it will be the provost or academic vice president or designee; for others, it will be a dean or department chair. Those team members play important roles when institutional issues arise such as changes in scheduling or the use of classroom space. If unexpected 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 can get accomplished in ways that make the technology as easy as possible for students to use. Technology professionals contribute ideas about how to increase interaction with content as well as with other students. They also suggest design approaches that make sure the technology will not limit students' learning options.

- *Assessment Experts.* In Chapter VII of How to Redesign a College Course Using NCAT's Methodology, NCAT sets forth straightforward methods whereby student learning in the redesigned course can be compared with student learning in the traditional course. But it's useful to include on the team a member who is knowledgeable about assessment and research design—especially if the institution seeks to measure additional facets of the redesign such as performance in downstream courses or student satisfaction. Such expertise may be found in a department of psychology or a department of education or in offices of institutional research.

- *Instructional Designers.* If your campus is fortunate enough to have instructional designers on staff, you may wish to add one to the team. An instructional designer can help guide the re-sequencing of instruction and provide insight into learning theory and modularization. Subject matter experts are not always learning experts, and such guidance can be crucial.

Stage Two: 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 interested in participating in the redesign program will be asked to think carefully about which courses are good candidates for redesign and to respond to the following Course Readiness Criteria.

Completing the readiness criteria enables each team to assess collectively its strengths and weaknesses and thereby understand what it needs to do to address gaps in its preparation early in the process. No team perfectly meets all of the readiness criteria, especially at the beginning of the planning process. Every team will discover things it needs to work on in order to carry out a successful course redesign. The readiness criteria are designed to help teams select courses with the highest chances of success. Answering the following questions as honestly as possible—and providing data to support the answers—will lead to the most positive outcome for a team's project.

As noted earlier, this program requires the establishment of a redesign team because of the multiple dimensions involved in large-scale course redesign. The team's first activity is to respond to the following readiness criteria questions. 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.

1. Course Choice

Choosing the right course is the first step in a successful course redesign project. Courses that face academic or resource problems or both are the best targets. What impact will redesigning the course have on the curriculum, on students, and on the institution; that is, why do you want to redesign this course? Please be specific by providing data on pass rates, enrollment numbers, and so on.

Is there an academic problem in this course such as a high failure rate? Does the course face a resource problem such as how to meet increased enrollment demand with no commensurate increase in resources? Is the redesign linked to some larger institutional goal such as a Quality Enhancement Plan (QEP), a campus strategic plan, or a reaccreditation process?

2. Redesign Model

When you develop your redesign plan, you will be asked to select a redesign model. Please read Chapter III of How to Redesign a College Course Using NCAT's Methodology, which describes six possible models. At this point in the planning process, which redesign model do you think would be most appropriate for your redesign? Why?

When you look at the models chosen by successful redesign projects, you will notice that certain disciplines select particular models. For instance, math uses the emporium model, foreign languages use the replacement model, and so on. What aspects of the model you are thinking about using fit your particular discipline and your particular students? Have other successful course redesign projects in your discipline used this model?

3. Assessment Plan

When you develop your redesign plan, you will be asked to select an assessment model. Please read Chapter VII of How to Redesign a College Course Using NCAT's Methodology, 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?

Successful large-scale redesign efforts begin by identifying the intended learning outcomes and developing alternative methods other than lecture or presentation for achieving them. Have those responsible for the course identified the course's expected or intended learning outcomes in detail? Do you have baseline data for the course in its traditional format? If so, please describe. If not, how do you plan to collect baseline data and compare it with student learning outcomes after you have redesigned the course?

4. Cost Savings Plan

When you develop your redesign plan, you will be asked to select a cost reduction strategy. Please read Chapter V of How to Redesign a College Course Using NCAT's Methodology, 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?

What does cost savings mean in practice? In the past, cost reduction in higher education has meant loss of jobs, but that's not the NCAT approach. In every NCAT course redesign project, the cost savings achieved through the redesigned courses remained in the department that generated them; and the savings achieved were used for instructional purposes. By reducing the costs of offering redesigned courses, institutions have been able to reallocate and do what they would like to do if they had additional resources.

5. Learning Materials

Successful course redesign that improves student learning while reducing instructional costs is heavily dependent on high-quality, interactive learning materials. Today's commercial marketplace offers many reasonably priced materials that meet that requirement. NCAT has worked with more than 200 redesign projects that have considered, used, and continue to rely on such materials. Are participating faculty members able and willing to incorporate existing curricular materials in order to focus work on redesign issues rather than materials creation? What learning materials are you thinking about using in your redesign?

Ideally, one wants the faculty to have a "head start" in the redesign process if possible. Is the discipline one with a comparatively large existing body of technology-based curricular materials and/or assessment instruments? Are the faculty willing to use these materials if they meet course objectives? Will they employ an appropriate blend of using these materials and created "home-grown" materials in a non-dogmatic fashion? Are they willing to partner with other content providers such as commercial software producers or other universities who have developed technology-based materials?

6. Active Learning

Greater student engagement with course content and with one another, supported by information technology, is essential to achieving student success. Do the course faculty members have an understanding of and some experience with integrating elements of computer-based instruction into existing courses to support active learning?

Sound pedagogy is the key to successful redesign projects. When sound pedagogy leads, technology becomes an enabler for good practice rather than the driver. Some faculty may have a great deal of enthusiasm for large-scale redesign but little prior experience in this area. It is difficult to complete a successful project by starting from scratch. Having some experience helps to prepare for large-scale redesign efforts. Have the faculty systematically thought about and investigated alternative methods for empowering students to learn? What evidence can you provide to demonstrate faculty experience with integrating computing into existing courses in order to support active learning?

7. Collective Commitment

A collective commitment is a key factor for the success and the sustainability of redesign projects. As part of the planning process, you have been asked to form a course redesign team. Please describe the members of your team, the skills they bring to the project and what their roles will be in both the planning and implementation phases of the project. Please read Chapter XIV of How to Redesign a College Course Using NCAT's Methodology, which discusses how to achieve initial and ongoing consensus among faculty, campus offices, and senior administrators.

Are the faculty ready to collaborate? Have they engaged in joint conversations about the need for change? Are decisions about the course made collectively--in other words, beyond the individual faculty member level? Substantive changes cannot rely on faculty initiative alone because they are systemic and involve changes in such areas as policy (class meeting times, contact-hour requirements, governance approvals); budgeting (planning and processes that support innovation); systems (registration systems, classroom assignments); and, infrastructure (equipment purchase and deployment.) What is the level of support for the project beyond the departmental level?

Teams wishing to participate in the program should send a narrative addressing each of the course readiness criteria (about one page each) as the criteria apply to the selected course, *focusing on evidence that demonstrates the way the evidence meets each criterion.*

Please include with your proposal a cover page on which you:

- List all team members by name and include title, academic affiliation, phone number, and e-mail address for each one.
- Identify the person who is the primary contact for your team project, with the understanding that the primary contact will distribute communications appropriately with the rest of your team.

Team responses to the Course Readiness Criteria should be submitted electronically to [NAME], at [EMAIL ADDRESS].

Deadline for submission: January 15, 2016.

Stage Three: **Planning for Redesign**

Based on their responses to the Course Readiness Criteria, teams will be invited to participate in a second one-day workshop, "Developing the Proposal," on February 28, 2016. 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.

Workshop participants will be the core team members who will implement the redesign project. 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.

Prior to the workshop, teams will be asked to complete additional background reading about course redesign and to prepare a five-minute presentation about their tentative course redesign plans.

Stage Four: Developing Final Project Plans

Teams that participate in the February 28, 2016, workshop will be invited to submit final project plans according to a specified format, which includes both narrative and forms. The course redesign initiative team will provide individualized assistance as prospective participants prepare their plans. Teams will be encouraged to submit drafts of their plans for review and feedback before their final submissions.

Each final plan must include a project budget developed in consultation with [PROVOST/CHIEF ACADEMIC OFFICER]. Final proposals should be submitted electronically to [NAME] at [EMAIL ADDRESS].

Deadline for Submission of Final Plans: July 1, 2016.

[WHO] will review the final proposals and make final selections. In addition to selecting projects that are likely to succeed and to have the highest impact, the [INSTITUTION] program will give priority to working in a variety of academic disciplines.

Projects will be selected to participate in the program by July 15, 2016 so that teams can begin work in late summer.

<u>Selection Criteria</u>

- 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.

- The course selected for redesign should be facing an academic problem (e.g., low successful completion rates), a resource problem (e.g., inability to meet demand based on current resources), or a combination of both.
- The course selected for redesign must be at the undergraduate level.
- Participants must be fully committed to completely redesigning and delivering a large-enrollment course currently offered at [INSTITUTION].

Stage Five: Planning and Developing the Pilot

Participants must plan to conduct a pilot implementation during the spring 2017 term and collect data on comparative student-learning outcomes between traditional sections and redesigned sections. Pilot implementations should involve a substantial percentage of students enrolled in the course in order to test the efficacy of the redesign. Pilots do not have to involve all students and sections but should be designed such that they can scale to all sections if successful.

Project teams will be expected to engage in focused on-campus planning during the summer and fall of 2016. They will complete redesign preparations, finalize project teams, train faculty and staff, perform redesign activities, modify existing course materials when necessary, and incorporate additional content into course materials.

Stage Six: Piloting the Redesign

During spring 2017, project teams will conduct pilot implementations of their course redesigns. The teams will collect initial assessment data that compares student learning outcomes in the traditional course with those in the redesigned format. The teams will make adjustments in the course materials and organization, if needed, in preparation for a full implementation in the fall 2017 term.

Stage Seven: Implementing the Full Redesign

In fall 2017, project teams will fully implement their course redesigns and collect data on comparative student-learning outcomes and final instructional costs.

TIMELINE

October 1, 2015	Call to Participate Issued
November 15, 2015	Workshop #I: Orientation to Course Redesign
January 15, 2016	Responses to Course Readiness Instrument Due
February 28, 2016	Workshop #2: Developing the Proposal
March–May 2016	Course Teams Develop Final Plans
July 1, 2016	Course Teams Submit Final Proposals
July 15, 2016	Grants Awarded
Summer and Fall 2016	Project Planning and Development
Spring 2017	Course Redesign Pilots
June 2017	Interim Project Reports Due
June 2017	Workshop #3: Mid-Course Sharing
Summer 2017	Course Plan Revisions
Fall 2017	Course Redesign Full Implementations
March 15, 2018	Final Project Reports Due
April 2018	Workshop #4: Dissemination of Results

More information about the [INSTITUTION] program can be found at [WEBSITE URL]. You may also contact:

[NAME
PHONE
EMAIL ADDRESS]

APPENDIX E – AGENDA
COURSE REDESIGN INITIATIVE
Workshop I: An Orientation to Course Redesign
[DATE]
[PLACE]

10:00 – 10:15 Welcome

10:15 – 11:15 Course Redesign Overview

Provides an overview of NCAT's course redesign methodology, including examples of the Six Models of Course Redesign.

Materials
- How to Redesign a College Course - Chapter III: Six Models for Course Redesign

11:15 – 11:30 Break

11:30 – 12:45 Essential Elements of Course Redesign

Engages participants in an interactive discussion of the Essential Elements.

Materials
- How to Redesign a College Course - Chapter I: The Essential Elements of Course Redesign

12:45 – 2:00 Lunch

2:00 – 3:30 Getting Ready for Course Redesign

Engages participants in an interactive discussion of the quality and cost planning tasks associated with redesign, including selecting the appropriate redesign model, assessing the impact of redesign on student learning and saving resources through redesign.

Materials
- How to Redesign a College Course - Chapter V: How to Reduce Instructional Costs
- How to Redesign a College Course - Chapter VII: How to Assess Student Learning
- Application Guidelines - Readiness Criteria

3:30 – 4:00 What's Next

Discusses next steps in the grant application process and provides an overview of NCAT's Planning Resources that support course redesign.

Materials
- Application Guidelines
- How to Redesign a College Course - Chapter II: Getting Ready to Redesign
- Homework for Workshop II

APPENDIX F – WORKSHOP II HOMEWORK

In preparation for the workshop, we would like your team to complete three tasks that will give you a taste of the redesign process and make the workshop a more productive and meaningful experience.

Required Reading

- Redesign Case Studies

  NCAT has provided the higher education community with almost 200 case studies of redesigns that both improved learning and reduced costs (see http://www.theNCAT.org/PCR/Proj_Success_all.html). The case studies are sorted by discipline, redesign model, and degree of success. Participants should read the case studies that are in the discipline of the course they intend to redesign and in the model they intend to use.

- How to Redesign a College Course by Using NCAT's Methodology

  This how-to guide is designed for those who want to improve learning and reduce costs in all sections of a single course in any academic area other than mathematics. The guide describes how to implement NCAT's course redesign methodology to increase student success and reduce instructional costs. Those considering a redesign in mathematics should read How to Redesign a College-Level or Developmental Math Course Using the Emporium Model or How to Redesign a Developmental Math Program Using the Emporium Model, as appropriate.

- Increasing Success for Underserved Students: Redesigning Introductory Courses

  This report examines the impact of the redesign techniques developed by NCAT's Program in Course Redesign on the success of adult students, students of color, and low-income students.

Partial Draft of the Cost Planning Tool and the Scope of Effort Form

Completing the Cost Planning Tool and the Scope of Effort form has proved to be an important part of the course redesign process because doing so facilitates a team analysis of all of the instructional tasks in both the traditional and redesigned formats of the course as well as their associated costs.

For the workshop, we would like you to complete a draft of sheet 1 (the summary of personnel costs) and the top half of page 4 (the annual cost of the traditional course) of the Cost Planning Tool as well as a draft of sheet 1 of the Scope of Effort form for the course(s) you intend to redesign. This exercise will familiarize you with the various components of the course, help you consider those that can be changed and those that cannot be, and help you analyze the sources of course costs.

Downloadable versions of the Cost Planning Tool and the Scope of Effort form, instructions for completing them, and completed examples can be found in the appendixes of How to Redesign a College Course Using NCAT's Methodology.

Electronic versions of the Cost Planning Tool and the Scope of Effort form should be sent to [NAME] at [E-MAIL ADDRESS] by [ONE WEEK PRIOR TO THE WORKSHOP].

Workshop Presentation

We would like each of your team members to be prepared to present a five-minute summary of your team's choice of redesign model and the ways you intend to implement the essential elements of course redesign within that model.

During the workshop, we intend to divide the participants into groups of eight each, breaking up redesign teams, so that you can share your ideas about models and principles and receive feedback on your ideas.

References: Chapters I and III of How to Redesign a College Course Using NCAT's Methodology. We encourage you to consider all six redesign models as you think about your own plans rather than assume that you should follow the model used by the core institutions in your particular discipline—with the exception of mathematics. (See http://www.theNCAT.org/RedMathematics.htm if you are planning a mathematics redesign).

APPENDIX G – WORKSHOP LOGISTICS

Following are lists of the logistical components of each workshop that program leaders must manage.

All Workshops

- Identify the date, time and place for the workshop.
- Manage facilities for the workshop.
  - ✓ Space: Set up room in round tables for eight each.
  - ✓ Supply food and beverage.
  - ✓ Audiovisual: Projection system, microphone, and PC
  - ✓ Podium in front or onstage and tables and chairs
- Manage workshop registration.
- Produce a registration list to include in workshop packets.
- Produce workshop materials packets.
- Create name tags.

Workshop I: An Orientation to Course Redesign

- Print workshop materials to include in packets.
  - ✓ Workshop I Agenda
  - ✓ Application Guidelines
  - ✓ How to Redesign a College Course Using NCAT's Methodology
  - ✓ Homework for Workshop II
- Divide participants into groups of eight each.
  - ✓ Establish a number and a letter for each table (Example: Eight tables of eight each numbered 1 to 8 and lettered A to H).
  - ✓ Divide participants into two sets of groups of eight. One set will be utilized in the morning workshop activity (groups 1 to 8), and one set will be utilized in the afternoon workshop activity (groups A to H), making sure that people from the same departments are not in the same groups. The goal is to distribute the participants so their discussions are not with their day-to-day colleagues.
  - ✓ Assign each participant a number and a letter. Put both on each one's name tag.
  - ✓ Create stanchions for each table with the appropriate number and letter.
  - ✓ At registration, instruct participants to sit at the table that corresponds to their *number*.
  - ✓ At noon, project leaders should remix the groups by instructing participants to move to the table that corresponds to their *letter*.

Workshop II: Developing the Redesign Proposal

- Print workshop materials to include in packets and to distribute.
  - ✓ Workshop II Agenda
  - ✓ How to Redesign a College Course Using NCAT's Methodology
- Divide the participants into groups of eight each.
  - ✓ Establish a number and a letter for each table (Example: Eight tables of eight each numbered 1 to 8 and lettered A to H).
  - ✓ Divide participants into two sets of groups of eight. One set will be utilized in the morning workshop activity (groups 1 to 8), and one set will be utilized in the afternoon workshop activity (groups A to H), making sure that people from the same departments are not in the same groups. The goal is to distribute the participants so their discussions are not with their day-to-day colleagues.

- ✓ Assign each participant a number and a letter. Put both on each one's name tag.
- ✓ Create stanchions for each table with the appropriate number and letter.
- ✓ At registration, instruct participants to sit at the table that corresponds to their *number*. At noon, project leaders should remix the groups by instructing participants to move to the table that corresponds to their *letter*.

Workshop III: Mid-Course Assessment and Workshop IV: Assessing the Results

- Print workshop agendas.
- Ask each team to bring sufficient copies of their presentation slides to distribute to the participants.

APPENDIX H – AGENDA
COURSE REDESIGN INITIATIVE
Workshop II: Developing the Course Redesign Proposal
[DATE]
[PLACE]

10:00 – 10:15 Welcome

10:15 – 11:00 Review of Workshop Homework
Provides feedback for redesign teams on their readiness criteria responses and Cost Planning Tools as well as guidance for future planning.

Materials (How to Redesign a College Course)
- Appendix A. Assessment Planning Forms
  Assessment Reporting Forms
- Appendix B. Completion Reporting Forms
- Appendix C. Cost Planning Tool
  Cost Planning Tool Examples
  Cost Planning Tool Instructions

11:00 – 11:15 Break

11:15 – 12:15 Innovative Ideas for Course Redesign
Engages participants in an interactive discussion of innovative redesign ideas.

Materials (How to Redesign a College Course)
- Chapter IV. New Instructional Roles
- Chapter VI. How to Create Small within Large

12:15 – 1:15 Lunch

1:15 – 2:15 Break-out Sessions: Course Redesign Plans
Engages participants in an interactive discussion of their course redesign ideas.

2:15 – 2:30 Break

2:30 – 3:30 Break-out Sessions: Course Redesign Plans (continued)

3:30 – 4:00 Preparing the Final Proposal
Discusses the content, format, and timeline for submitting final proposals as well as NCAT resources available to support proposal development.

Materials (How to Redesign a College Course)
- Chapter II. Getting Ready to Redesign
- Chapter XII. Planning and Implementing the Redesign: A Timeline and Checklist
- Chapter XIII. Developing a Written Redesign Plan: Why It's Important
- Chapter XIV. Building and Maintaining Consensus

APPENDIX I – INVITATION TO WORKSHOP III

Dear Colleagues,

We are looking forward to seeing your team at the Course Redesign Initiative workshop to be held at [PLACE] on [DATE]. To help you prepare for the workshop, this e-mail, which you should please share with your team, addresses two areas.

> Workshop Presentation Format
> Pilot Assessment Reports [one week prior to the workshop].

Workshop Presentation Format

An agenda for the workshop is attached to this message. We would like you to select one representative from your project to speak for a total of 15 minutes about the three topics that follow, which will leave about 5 minutes for Q&A after each presentation. We'll have an LCD projector available but not Internet access, and we encourage you to bring handouts that summarize your presentation.

The following questions are meant to stimulate your thinking about points to include; please feel free to emphasize what you think is most important.

1. Based on your experiences thus far, what have your successes been?

    - If you have data on learning outcomes and you think the pilot was a fair test, what was the impact of redesign on student learning and on rates of course completion with grades of C or better?
    - Have there been other impacts of redesign on students such as improved attitudes toward course content?
    - Did the course seem to work better for certain types of students than for others?
    - What particular kinds of outcomes appear to be most enhanced?

2. What implementation issues have you encountered thus far, especially those that might benefit from advice from your colleagues?

    - What have been the greatest challenges you have faced in implementing your course redesign?
    - Did you encounter particular challenges in any of the following areas: adequate coverage of course content? technology? faculty development and support? student attitudes and reactions?
    - What kinds of reactions to your redesign have you gotten from your colleagues? What kinds of objections or reservations do they have about the course and its delivery? What are they most excited or concerned about at this point? What evidence of success seems to be the most convincing?
    - What kinds of support for your redesign project have you been receiving from your department or from the institution more broadly? What specific aspects of department and/or institutional support have you been most gratified by and most disappointed about?

3. How do you plan to scale your redesign for full implementation?

    - How do you plan to meet the challenges you encountered during the pilot?
    - Have your goals for the redesign changed as a result of activities up to now? If so, what caused you to revise your expectations, and what do you hope to achieve in the project's next phase?
    - Looking back on the redesign project thus far, would you have done anything differently?

Pilot Assessment Reports

The primary project contact should electronically send your pilot assessment and completion reports to [PROJECT LEADERS] [DATE: one week prior to the workshop]. Please use the two forms Pilot Assessment Results and Pilot Completion Form, which can be found in Appendix A and Appendix B at http://www.theNCAT.org/Guides/AllDisciplines/TOC.html. If you cannot meet the deadline, please send [PROJECT LEADERS] a note explaining your circumstances.

We look forward to seeing you at the workshop!

APPENDIX J – AGENDA
COURSE REDESIGN INITIATIVE
Workshop III: Interim Progress Reports
[DATE]
[PLACE]

10:00 – 10:15 am	Welcome and Introductions
10:15 - 11:15 am	Project A: Course Name Project B: Course Name Project C: Course Name
11:15 – 11:30 am	Break
11:30 am – 12:30 pm	Project D: Course Name Project E: Course Name
12:30 – 1:30 pm	Lunch
1:30 – 2:30 pm	Project F: Course Name Project G: Course Name Project H: Course Name
2:30 - 2:45 pm	Break
2:45 – 3:45 pm	Project I: Course Name Project J: Course Name Project K: Course Name
3:45 - 4:00 pm	Wrap-up

APPENDIX K – INVITATION TO WORKSHOP IV

Dear Colleagues,

I hope your fall semester has gone well.

We are looking forward to seeing your team at the fourth and final course redesign workshop to be held at [LOCATION] on [DATE]. We urge you to bring as many members of your redesign team as possible.

I am writing about three things in relation to the final report and workshop:

> The format for your final report, which is due on [DATE]
> The agenda for the workshop
> The presentation format for the workshop

Final Report Format

Attached to this message is a description of the format for the final report that you will need to complete by [DATE]. If you cannot meet the [DATE] deadline, please send by the deadline those parts of the report that you can complete as well as a note explaining your circumstances and when you plan to complete the full report.

Workshop Agenda

Also attached to this message is the agenda for the workshop.

Workshop Presentation Format

Please select one representative from your project to speak for a total of 15 minutes about the topics that follow. That will leave about five minutes for Q&A after each presentation.

In preparing your presentation, be sure to review your project abstracts posted on the course redesign website, your assessment plans, and your Cost Planning Tool, and refer to them as you discuss the following.

Student-Learning Outcomes

Based on the data you have collected, what was the impact of your redesign on student learning? What was the impact of redesign on course completion (reduction in DFW rates)? What pedagogical techniques did you use that contributed most to improving the quality of student learning?

Cost Savings

Have the original cost estimates for the course been met? If not, what were the major deviations and why did they occur? If savings are anticipated, what do you expect will happen to the resources that will be saved? What techniques contributed to cost savings?

Implementation Issues

Looking back on the implementation of your redesign, what worked best and what worked least well? What were the greatest challenges you faced, and what did you do to overcome them? What are your future plans?

Please let me know if you have questions.

We look forward to seeing you at the workshop. Best wishes for a happy holiday season!

APPENDIX L – AGENDA
COURSE REDESIGN INITIATIVE
Workshop IV: Assessing the Results
[DATE]
[PLACE]

10:00 – 10:15 am	Welcome and Introductions
10:15 - 11:15 am	Project A: Course Name Project B: Course Name Project C: Course Name
11:15 – 11:30 am	Break
11:30 am – 12:30 pm	Project D: Course Name Project E: Course Name
12:30 – 1:30 pm	Lunch
1:30 – 2:30 pm	Project F: Course Name Project G: Course Name Project H: Course Name
2:30 - 2:45 pm	Break
2:45 – 3:45 pm	Project I: Course Name Project J: Course Name Project K: Course Name
3:45 - 4:00 pm	Wrap-up

APPENDIX M – FINAL REPORT FORMAT

TO: Course Redesign Projects

FROM: Program Leaders

SUBJECT: Final Report Format

I am writing to describe the format we would like you to follow in producing your final reports on your course redesign projects that are due on [DATE].

Final reports for NCAT's Program in Course Redesign and the Roadmap to Redesign projects are available on the NCAT website. Please refer to them for examples of how to use the format. We especially recommend Fairfield University and the University of Massachusetts Amherst. Begin at http://www.theNCAT.org/PCR/R2/FU/FU_Overview.htm or http://www.theNCAT.org/PCR/R2/UMA/UMA_Overview.htm and follow the links under the Final Report for each project.

Report Format

A. Impact on Student Learning

1. Improved Learning

   This section should summarize your data on whether students learned more, less, or the same under redesigned conditions compared with the traditional offering of the course and should summarize your most recent results. Even though you may be investigating many other aspects of implementation and effectiveness as well, this section should summarize data on learning outcomes only.

   You should include the completed **Full Implementation Assessment Results form** as an appendix. The form can be found in Appendix A of How to Redesign a College Course Using NCAT's Methodology. Be sure to review what you said you would do in your assessment plan as reported on the original forms you submitted. Remember that the first question on each reporting form is, Did you carry out the assessment(s) as planned and reported on the Full Implementation Plan? If the assessment(s) you actually performed differs from what you previously reported, please complete a revised version of the Full Implementation Plan form and submit it with this report.

2. Improved Completion

   This section should summarize any impact on course completion rates (final grades of C or better.) Include the completed **Full Implementation Completion form** as an appendix. The form can be found in Appendix B of How to Redesign a College Course Using NCAT's Methodology.

3. Other Impacts on Students

   This section should summarize any other impacts on students that you wish to include such as improved attitudes toward course content.

B. Impact on Cost Savings

   Please review the Cost Planning Tool (CPT) that you submitted with your redesign plan as amended through interactions with project leaders (this is your final cost savings plan) as well as the last paragraph in your project abstract on the course redesign website that summarizes your cost savings plan. Have you implemented your cost savings plan? If not, why not? Using the last paragraph in your project abstract as a basis, please describe whether you carried out your cost savings status and discuss any relevant issues that affected its status.

C. Lessons Learned

1. Pedagogical Improvement Techniques

   This section should list in bulleted form (technique + one-paragraph description) those techniques you utilized that contributed to improving the quality of student learning.

2. Cost Reduction Techniques

   This section should list in bulleted form (technique + one-paragraph description) those techniques you utilized that contributed to cost savings.

3. Implementation Issues

   This section should list in bulleted form (technique + one-paragraph description) those implementation issues that you consider to have been most important. You may want to distinguish between which features, activities, or strategies in your course redesign worked best and which worked least well.

D. Sustainability

   Please include a brief statement regarding your view of the sustainability of your course redesign on campus.

<u>Process</u>

1. Use a straightforward Word format with no embellishments (colors, boxes, etc.). No Adobe files, please.

2. Program leaders are available to answer questions about format and content.

3. Please send your completed report electronically to [WHO] by [DATE].

APPENDIX N – PROGRAM EVALUATION
[INSTITUTION] Course Redesign Initiative
[DATE]

INTRODUCTION

Summarize the initiative's history.
List the courses that were redesigned.
List the goals of the initiative.

PROCESS

Year One

Stage #1: Program Development

Describe activities.
Stage #1 was completed by [DATE].

Stage #2: Building Awareness and Commitment

Describe activities—including number of participants—in Workshop I.
Stage #2 was completed by [DATE].

Stage #3: Orientation, Selection and Training of Course Redesign Teams

Describe activities—including number of teams responding to readiness instrument and number of teams and participants—in Workshop II.
Stage #3 was completed by [DATE].

Stage #4: Individualized Consultation during Planning Phase

Describe activities, including number of teams submitting full proposals.
List those selected and those not selected to participate in the program.
Stage #4 was completed by [DATE].

Year Two

Stage #1: Preparing and Implementing Pilots

Describe activities, including number of pilots conducted.
Stage #1 was completed by [DATE].

Stage #2: Mid-Course Assessment

Describe activities—including number of teams participating in Workshop III—and state the number of teams dropped, if any, after the pilot implementation.
Stage #2 was completed by [DATE].

Year Three

Stage #1: Full Implementation

Describe activities—including number of teams participating—in Workshop IV.
Stage #1 was completed by [DATE].

Stage #2: Assessing the Impact

Describe activities, including number of completed projects.
Stage #2 was completed by [DATE].

THE RESULTS

Summarize the course redesign projects' final reports.
There were [#] completed course redesign projects.

1) Did student learning improve (as measured by direct comparisons of content mastery)?

[#] Yes
[#] No difference
[#] No

2) Did course completion rates improve (as measured by comparisons of final grades)?

[#] Yes
[#] No difference (but traditional completion rates were high)
[#] No difference
[#] No (but standards were higher in the redesign)
[#] No

3) Were instructional costs reduced?

[#] Yes
[#] No

4) Will the redesign be sustained after the grant period is over?

[#] Yes
[#] Unclear
[#] No

1) Did student learning improve (as measured by direct comparisons of content mastery)?

Yes

1. Basic English (used pre- and posttests to compare student writing samples by using a common rubric and compared grammar and mechanics by using a common online diagnostic)

    - It appears that there was some improvement in student learning. Two sets of pre- and posttest scores were collected from students: one from a rubric designed in-house and the other from an online diagnostic designed by Pearson publishing.

    - Students in the traditional course showed a 14-point gain on their rubric finals, whereas students in the redesigned course showed a gain of 17 points. Students in the traditional course showed an 18-point gain on the online diagnostic, whereas students in the redesigned course showed a 5-point gain. It is worth noting that the in-house rubric had a grammar and mechanics portion, and redesign students outscored the traditional ones.

2. General Chemistry (compared common final exams)

    - There was a considerable increase in performance on the postassessment from the fall 2011 traditional course (mean = 70.93%) to the fall 2012 redesigned course (mean = 80.39%).

    - In addition, a math and science preparedness test developed by the team was administered to all students as a pretest. Students in the redesign course were less prepared (mean score = 68.56%) than students in the traditional course (mean score = 74.70%), making the learning increase in the redesigned course even more impressive.

3. Introductory Psychology (compared common final exams)

    - The fall 2011 semester served as a baseline semester wherein two faculty members, both of whom were members of the redesign team, each taught a traditional section of Introductory Psychology. The primary measures of learning outcomes included two (pre- and post-) comprehensive exams: (1) a 30-item comprehensive exam that had been developed a number of years ago by members of the department of psychology and that has traditionally been used as a measure of student learning in Introductory Psychology and (2) a 50-item comprehensive exam created specifically for this project by the course redesign team.

    - Analyses confirmed that there were no significant differences between the two baseline sections with respect to pretest scores on the 30-item exam ($t(276) = .92$, $p > .05$) or the 50-item exam: $t(282) = .04$, $p > .05$. Thus the sections were combined into one comparison group ($n = 302$).

    - The full implementation occurred during the fall 2012 semester and consisted of five sections, all of them taught by members of the redesign team. Results indicated that on the 30-item comprehensive exam, students ($n = 1{,}340$) in the redesigned sections performed significantly better (84% improvement) compared with the traditional comparison group (54% improvement): $t(317.54) = -7.50$, $p < .001$. Similarly, students in the redesigned course demonstrated significantly more improvement from pre- to posttest on the 50-item comprehensive exam (62% improvement) compared with the traditional sections (37% improvement): $t(429.41) = -12.55$, $p < .001$.

4. Intermediate Algebra (compared common final exams)

    - Students in the redesigned course performed significantly better. With a baseline of 100 points, the average final exam score for the fall 2011 traditional sections was 63; that for the fall 2012 redesigned sections was 85.

5. College Algebra (compared common final exams)

    - Students in the fully implemented redesigned course performed significantly better on the final exam compared with students in the previous three fall semesters of the traditional course. The mean on the final exam in the redesigned sections was 68%; the mean in the traditional sections was 55%.

6. Computers and Information Systems (compared common final exams)

    - In the traditional course, final exam scores averaged 73%, whereas in the redesigned course, final exam scores averaged 79%.

    - Pell-eligible students' average final exam scores were 69% in the traditional course and 77% in the redesigned course.

No difference

1. Introduction to Business (compared common final exams)

    - A common comprehensive final exam measured academic performance between the traditional and redesigned courses. Students in the traditional course scored an average of 74%; students in the redesigned course scored an average of 73%.

No

1. Oral Communications (compared common final exams)

    - Students in the redesigned section of the course had a lower average score on the final assessment that evaluated student performance. The average score for traditional sections was 71.3%; the average score for the redesigned sections was 66.6%.

2) Did course completion rates improve (measured by comparing final grades)?

Yes

1. Intermediate Algebra

    - Student success rates (final grades of C or better) increased from 68% in the traditional sections to 85% in the redesigned sections.

    - The percentage of students receiving an A in the redesigned sections was more than twice the percentage of those in the traditional sections (48% versus 23%).

    - It is worth noting that some instructors of the traditional sections curved the grades of the sections they taught, whereas all of the redesigned sections were graded on a straight scale.

2. College Algebra

    - Course completion (with final grades of C or better) increased slightly in the redesign from 63.8% in three previous fall semesters to 66.5% in the redesigned semester.

No difference

1. General Chemistry

There was no significant difference in the completion rate in the redesigned course, with 77.23% of students receiving C grades or better in the redesign compared with 78.30% in the traditional course.

2. Introductory Psychology

    - Completion rates (grades of C or better) were 76% in both the traditional and redesign sections.

3. Computers and Information Systems

    - There was no significant difference in the final grades for the course: 85% of students in the traditional course received passing grades (defined as C or better) versus 84% of students in the redesigned course.

No, but standards were higher in the redesign

1. Basic English

    - The percentage of students earning grades of C or better in the traditional course was 50%; in the redesigned course, it was 36%.

    - Because grade inflation was an issue in the past affecting approximately 20% of students, the lower number mastering the course in the redesign is not alarming. In addition, exit standards were not only consistent in the redesigned course but also higher than in the traditional course.

2. Oral Communications

    - The percentage of students earning grades of C or better in the traditional course was 65%; in the redesigned course, it was 64%.

    - However, final grades from the traditional course suffered from grade inflation. Even though the course had a syllabus as a guideline, the preponderance of the 18 adjuncts instructing sections viewed the guideline in differing ways. Some of the sections did not require speeches; rather, those sections replaced actual speeches with rhetorical criticisms of speeches. Those sections tended to have curved grades that were mostly A or B. In the redesign, the undergraduate learning assistants were trained to follow National Communication Association guidelines for oral communication presentations to standardize what an A or B speech should be. Most adjunct instructors in the traditional course could not have identified those competencies in an oral presentation.

No

1. Introduction to Business

    - The percentage of students earning grades of C or better in the traditional course was 69%; in the redesigned course, it was 60%.

3) Were instructional costs reduced?

Yes – Saved More

1. General Chemistry

    - The cost savings plan was to reduce the number of instructors needed to teach the course by increasing the section size from 200 to 400 students, reducing the number of sections offered annually from six to three, and transferring some student learning experiences online. Those actions would reduce the cost per student by 19%, from $150 to $122.

    - The team carried out its cost savings plan of reducing the number of instructors from six to three (two in the fall and one in the spring, down from four in the fall and two in the spring) and combining original sections into larger sections of students that included face-to-face and synchronous online participation.

    - In addition, the team saved more than it had anticipated, because the redesign required fewer graduate teaching assistants (GTAs) than originally planned. Only 7 GTAs were needed instead of the 12 projected. The structure of the activities enabled undergraduate learning assistants (ULAs) to replace GTAs. Three additional ULAs were hired, but at a lower rate than GTAs.

    - Furthermore, with only three sections taught annually and a much more organized course, released time for coordination was not needed in the redesign. The actual cost per student dropped from $150 to $102 per student, a savings of 32%.

2. Oral Communications

    - The cost savings plan was to decrease the number of sections offered annually from 44 to 4, to increase section size from about 23 to 230 students, and to decrease the need for adjunct instructors from 18 to 2. Four undergraduate learning assistants would work with small groups of students both in the lecture and in the Communications Assessment and Learning Lab. The cost per student was projected to decrease from $174 in the traditional format to $39 in the redesigned format.

    - The team saved more than originally projected. Because enrollment dropped from 920 students to 755, the team decreased the number of sections offered annually from 44 to 3. The cost per student decreased from $174 in the traditional format to $33 in the redesigned format, a reduction of 81%.

3. Intermediate Algebra

    - The plan was to reduce the number of Intermediate Algebra instructors, all of them graduate teaching assistants, from 5 to 2.5 by increasing section size from 35 to 70 students and thus reducing the number of sections offered annually from 20 to 10. Although undergraduate learning assistants were added to help staff the computer lab, the redesign would reduce the cost per student from $118 to $104, a 12% savings.

    - During full implementation in the fall 2012 semester, the redesign team was surprised by a high enrollment of 497 students in Intermediate Algebra (compared with the estimated

average of 375 students). Therefore, eight sections of Intermediate Algebra, instead of five, were offered taught by three GTAs. Despite that modification to the plan, the cost per student reduced from $118 to $103 per student, a 13% savings.

4. Computers and Information Systems

   - The original plan was to consolidate all sections under one instructor assisted by a team of undergraduate and graduate students. The number of sections would decrease from 11 to 2 annually, and section size would increase from 50 to about 150 to 300 students. The planned enrollment was 550 students and would have resulted in a decrease in cost per student from $113 to $95, a 16% reduction.

   - However, actual enrollment increased to 640, yielding greater savings. The cost per student decreased from $113 in the traditional sections to $81 in the redesign, a 28% reduction.

<u>Yes</u>

1. College Algebra

   - Costs were reduced as planned by more than doubling student load for GTAs and adjunct instructors: from one section of 35 to 40 students to two sections of 50. Removing GTAs and adjunct instructors from the lecture setting and placing them in the lab setting means they no longer spend time preparing lectures. Additionally, far less time is spent grading student work. Those changes reduced the cost per student from $103 to $67, a 35% decrease. Instructors found, however, that they had somewhat underestimated the time needed for interacting with students outside of scheduled class meetings, for proctoring exams, for grading, and for training.

<u>Yes – Saved Less</u>

1. Introductory Psychology

   - The cost savings plan was implemented as originally planned and consisted of a combination of the restructuring of course personnel and increased section size. The course staff changed from one faculty member or adjunct instructor teaching 153 students to a teaching team of seven individuals (one full-time faculty, one graduate student or adjunct instructor serving as senior learning assistants, and five undergraduate learning assistants [ULAs]) for a section of 300 students. The anticipated reduction in cost per student was 18%.

   - The number of sections taught annually declined from 18 to 9 as planned. Three changes affected the actual cost per student: (1) The team expected a small enrollment increase of 72 students annually, which did not occur. Instead, enrollment declined by about 126 students to 2,500. (2) Two of the sections were taught by an experienced adjunct rather than by a full-time faculty member. (3) The team decided the course needs a coordinator to ensure consistency and to train multiple course staff as staff change in the future. The result of those changes was that cost per student actually decreased from $73 in the traditional course to $66 in the redesign, a 10% reduction.

2. Introduction to Business

    - The team carried out its cost reduction plan of using fewer full-time faculty to teach the course. In the traditional format, typically four faculty members taught the course in the fall, and three in the spring. In the redesign, the plan was for one full-time faculty member to teach the course to one large section of students (150 to 160 in fall and 75 to 100 in spring) with support from adjuncts and ULAs.

    - Cost reduction was, however, less than anticipated. In the past, typical annual enrollment had been 200. During the course of the redesign, the university dropped its Associate in Business degree, which had required that students take the Introduction to Business course. That change unexpectedly dropped the annual enrollment by nearly half. With the reduction in sections, instruction was carried out by one faculty member and one adjunct. The cost per student was projected to decline by 60%, from $325 to $130. Instead, it declined by 33%, from $325 to $217.

No

4) Will the redesign be sustained after the grant period is over?

Yes

1. Basic English

    - The redesign should be sustainable. One issue that needs to be addressed is finding high-quality undergraduates—with schedules that fit around the course's schedule—to serve as ULAs. In the future, assistants will be interviewed and secured months in advance.

2. General Chemistry

    - The newly hired faculty position is permanent; therefore, there is support for the redesigned format of the course to continue.

    - There are plans to increase students' number of options, including an online asynchronous model. Additional, discipline-specific recitation models are also being planned.

3. Introductory Psychology

    - Support for the redesigned course has not wavered within the department and the university, and there is every indication that the course will continue as currently designed. All of the members of the original redesign team had their teaching responsibilities modified to accommodate the course redesign process, and now those faculty wish to return to teaching other courses in addition to introductory psychology. That change will require the recruitment of additional department faculty interested in teaching the redesigned course. (This has already begun, with a combination of existing faculty and new hires.)

- Overall, the redesign team developed a robust, engaging course, based on best practices in teaching that have proved to significantly improve learning outcomes. Therefore, any revisions that take place in the future are likely to be relatively minor and are not expected to place any significant burden on the existing redesign team.

4. Intermediate Algebra

    - The full implementation of redesigned Intermediate Algebra in fall 2012 occurred just in time, when more math full-time faculty and adjuncts were needed to teach other courses due to increased enrollment and expanded programs within the department. Meanwhile, a lot more students than expected were required to take Intermediate Algebra. The department had to offer eight 70-seat sections instead of five sections as originally planned. Without the redesign approach, it would have been impossible to offer three more sections accommodating nearly 200 additional students on short notice.

    - The higher course completion rate makes it clear that the redesign approach improves the student learning experience. The two redesigned College Algebra sections were full shortly after they opened for enrollment, which shows that many students were in favor of the redesign model when it was available. At the same time, the Department of Academic Enrichment is seeking to undertake Introductory Algebra redesign with the help of the Intermediate Algebra redesign team.

5. College Algebra

    - The redesign has shown it is a cost-effective way to improve student learning and reduce course drift. No department faculty are interested in moving back to the traditional format, and the administration remains committed to the redesign effort. Students are reasonably content with the format: in the full implementation there were no complaints to the department chair. The redesign will be sustained.

<u>Unclear</u>

1. Oral Communications

    - Student outcomes showed no significant difference in learning, whereas instructional costs reduced by 81%. However, if the course does not receive public support from campus leaders along with the required technology and data assessment needed to win success, the redesign has a clear opportunity to backslide. The cost savings and format of the course are sustainable as long as the selection and training of learning assistants remain priorities.

2. Introduction to Business

    - The team plans to continue the redesign for at least two more years because the enrollment numbers will stay high enough for at least that length of time. The course redesign was certainly worth the time and effort. Two other disciplines on campus have already adopted redesign models for their large course sections, and many others are considering such adoption. This will result in a net gain for the university as a whole.

3. Computers and Information Systems

- Despite the best efforts of the redesign team and lead instructor to communicate the goals and structure of the redesign, institutional changes in leadership have posed a number of obstacles. The department chair left just before the full implementation, and the dean of the college of business administration is stepping down. As the information systems department shrinks in faculty full-time equivalents and students and as the institution faces substantial budget cuts in the near future, the challenge is to lobby for the necessary resources: a large teaching space to accommodate all students at one time.

No

Edited copies of final reports from each completed redesign are in Attachment A. Final reports include learning-outcomes data, course completion data, cost reduction data, a discussion of the most-important pedagogical techniques that led to increased learning, a discussion of the most-important cost reduction techniques that led to reduced costs, a discussion of implementation issues encountered during the redesign process, and a discussion of future sustainability of the redesign.

OBSERVATIONS

Following are examples of observations that NCAT has made.

- There are significant interest in and understanding of the value of course redesign on campus. Most faculty, staff, and administrators indicated that once they understood the interrelationship between cost and quality and learned about strategies to address both simultaneously, they became willing to redesign. Redesign project participants said they now understand clearly that it is possible to reduce costs while simultaneously increasing or maintaining quality as a result of participating in the initiative. In several cases, departments and institutions are moving to adapt the redesign methodology to other courses beyond the first course that was redesigned.

- The workshops and consulting sessions helped participants understand NCAT's strategies for quality enhancement and cost reduction. Once the teams participated in the workshops, they were much more prepared to formulate strategies for both quality enhancement and cost reduction. That greater preparedness was evident in the proposals the teams submitted. Prior to their experience in the planning process, it was difficult for some faculty to imagine how to approach the issues simply by referring to NCAT's website. The workshops were key in providing examples, presenting the organizing principles, conveying a national perspective, and offering opportunities for discussion. Unfortunately, in three cases, the final project leaders inherited the redesign from the original project leaders once the project was under way and did not participate in the workshops.

- Project teams understood the amount of work needed for the redesign and strategies for approaching the issues. Most teams were quite well organized and allocated the design work among members. Those teams moved expeditiously through the planning and development process by spending their time effectively, and they achieved success and sustainability. Projects that did not form project teams tended to struggle and be less successful.

- All projects focused on courses with multiple sections. Courses with large numbers of students and multiple sections provided the opportunity, in most cases, to show significant cost savings—on average, 30%.

- Faculty were not as familiar with quantitative evaluation strategies that allow for comparison between traditional and redesigned formats and that demonstrate improved student learning as a result of redesign efforts. This is consistent with observations of initial faculty confusion in other NCAT course redesign programs. However, with some assistance, faculty became able to design assessment plans for establishing baseline data and comparing learning in the traditional and redesigned courses. During the workshop and consulting sessions, teams found discussion of possible strategies very useful, and all were able to identify methods they could use to implement a successful assessment plan.

- Faculty were not at all familiar with costing strategies that facilitate comparison between traditional and redesigned formats and that document reduced instructional cost as a result of redesign efforts. This is consistent with observations of initial faculty inexperience in other NCAT course redesign programs. However, with a great deal of assistance, faculty became able to develop cost reduction plans that established baseline data and able to compare costs in the traditional and redesigned courses. During the workshop and consulting sessions, teams found discussion of possible strategies very useful, and all were able to identify methods they could use to implement a successful cost reduction plan.

- Active intervention and frequent monitoring by NCAT staff during the project implementation period greatly increased the likelihood of success. Based on NCAT's experience with many large-scale course redesign projects, we know that projects can get derailed during the implementation phase because of unanticipated issues that arise. Teams may not know how to respond, and their initial reaction is often to revert to the status quo of the traditional model. At those junctures, teams that sought advice benefited from experts in course redesign who could discuss the problems and offer strategies to resolve them. Other teams soldiered on without the benefit of that advice, often to their own detriment.

- A diversity of disciplines was involved and successful. The redesign projects included the natural sciences (human anatomy and chemistry); two in mathematics, two in English/communications, and one in statistics; and one each in psychology, computing, business, management, and health, thus demonstrating that course redesign principles can be implemented successfully in a variety of disciplines.

- The funded projects produced a number of models. [INSTITUTION] now has a number of models for future redesign initiatives within its colleges and universities. These provide a range of approaches complementing those already available at NCAT.

- A number of projects demonstrated increased student-learning outcomes or similar student-learning outcomes but reduced completion rates. Several of the projects investigated that contradiction and discovered that prior grade inflation was most likely the cause. Other projects experiencing the same phenomenon should also investigate whether prior grade inflation played a role. [INSTITUTION] should conduct a review of grading practices in view of possible inconsistencies between student-learning outcomes and grades awarded. When there is a contradiction between increased student-learning outcomes and decreased completion rates, we

believe, as do the project leaders, that in most cases it's a result of prior grade inflation or prior inconsistency in grading standards.

- Despite mixed results in improving learning and course completion, the vast majority of project leaders are fully supportive of the redesigns. For a variety of reasons—as captured in the Sustainability section of this report and in the individual project reports—the majority of project leaders are strongly supportive of the continuation of their redesigns. NCAT is confident that learning outcomes will improve as the various designs address the issues that arose in the initial implementations. In the professional judgment of the faculty, the redesigns are effective in improving the quality of the course while at the same time reducing costs. Greater consistency of content and coverage, valid and reliable measurements of student learning, and greater student engagement in course content all serve to back up that judgment.

- Despite mixed results in improving learning and completion rates, all projects were able to reduce their costs. One of the powerful messages of course redesign is that achieving the goal of reduced cost can have a significant impact on institutions' ability to deal with budget crises, serve more students with the same resources, and free faculty to do other institutional tasks—all with no diminution in quality.

RECOMMENDATIONS

Following are examples of recommendations that NCAT has made.

- [INSTITUTION] should find ways to publicize the results of the Course Redesign Initiative throughout its campuses.

- [INSTITUTION] should conduct a second round of the Course Redesign Initiative.

- [INSTITUTION] should create a [INSTITUTION] Redesign Scholars Program based on those who have both improved student learning and reduced instructional costs.

- [INSTITUTION] should consider requiring course redesign as part of its campus allocation strategy.

