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.