

HOW TO REDESIGN A COLLEGE-LEVEL OR DEVELOPMENTAL MATH COURSE USING THE EMPORIUM MODEL

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 in both developmental and college-level mathematics. The pedagogical techniques leading to greater student success are equally applicable to both developmental and college-level mathematics. The underlying principle is simple: Students learn math by doing math, not by listening to someone talk about doing math. Interactive computer software combined with personalized, on-demand assistance and mandatory student participation is the key element of success. NCAT calls this model for success the Emporium Model, named after what the model's originator, Virginia Tech, called its initial course redesign.

This "how-to" guide is designed for those of you who want to improve learning and reduce costs in a developmental or college-level math course and use NCAT's Emporium Model to do it. The guide makes two basic assumptions:

- We assume that your math course faces some kind of academic problem such as poor student performance, poor completion rates and a lack of consistency among sections of the course. You may also face a number of financial problems such as budget cuts, the need to serve more students on your current resource base and difficulty in finding qualified faculty, both full-time and adjunct.
- We also assume that you have heard about the Emporium Model and its spectacular track record of proven success. A [summary of the outcomes](#) achieved in improving student learning, increasing student completion and reducing instruction costs in *college-level* math can be found on the NCAT website. A summary of the outcomes achieved in [improving student learning](#), [increasing student completion](#), and [reducing instruction costs](#) in *developmental* math can be found on the NCAT website.

This guide focuses on redesigning all sections of a *single* math course at both the developmental and college levels. Another NCAT guide describes how to redesign the entire developmental math *sequence* rather than a single course. While there is substantial overlap between the two guides, there are also substantial differences.

We at NCAT could not have produced this guide by ourselves. It represents a compendium of the good ideas created and actions taken by hundreds of faculty and administrators working on this issue since 1999. In particular, we would like to thank the original six NCAT Redesign Scholars in mathematics who have tirelessly to create and sustain the Emporium Model and consistently given us and others throughout the United States great advice over the past decade: Betty Frost, Jackson State Community College; Jamie Glass, The University of Alabama; Phoebe Rouse, Louisiana State University; John Squires, Chattanooga State Community College; Kirk Trigsted, University of Idaho; and, Karen Wyrick, Cleveland State Community College. We would also like to thank the following colleagues who graciously took the time to review this guide, assuring us where we went right and correcting us where we went wrong: Megan Bradley, Frostburg State University; John Harwood, Penn State University; Ron

Henry, Georgia State University (retired); Phoebe McLaughlin, University of Central Missouri; Daniel Miller, Niagara County Community College; Shahla Peterman, University of Missouri-St. Louis; Phoebe Rouse, Louisiana State University; and, Shing So, University of Central Missouri. This guide is also a product of the experiences of thousands of students who once dreaded the thought of taking a math class but now say, "I can do it!"

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