Course redesign


http://www.thencccat.org/

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Participants

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Why?

- high drop-failure-withdraw rates
- RETENTION issues
- student complaints
- lack of consistence instruction
- difficulty finding qualified adjuncts
- student performance in subsequent courses

*Insanity: Doing the same thing over and over, expecting different results!*
What?

- Developmental Math
  - Math seems to be the gate-keeper…
  - Very forward thinking small group of full-time faculty willing to use technology and look at pedagogies

- Institutional “buy-in”
  - Started with input from Executive Dean.
  - Dean of Student Services early in the process.
NCAT basics

- "process of redesigning the whole course, rather than individual classes or sections, to achieve better learning outcomes at a lower cost by taking advantage of technology"

- Improving success rates AND decreasing costs!
NCAT Redesign models

supplemental
replacement
emporium
fully online
buffet
linked workshops
NCAT Emporium Model

- Whole course
- Active Learning
- Interactive software
- Master Learning. Not self-paced
- Increased on-demand, individualized assistance available
- Automate only course components that can benefit from automation (exams, homework, quizzes, etc.)
- Replace single mode of instruction with differentiated instruction

Technology enables good pedagogy with more students
How: three pilot-classes of 42 students in computer lab; traditional had 20 student standard lecture classroom

Issues

- Two rooms used as one, not ideal for faculty and students.
- Culture of student responsibility for own learning (learning culture slowly developing).
Fall 2011 Implementation Plans

- 15 sections of 20 taught by two full-time faculty
  - Lockwood has 10 sections as load
  - Lilly has 5 sections & a five hour culinary math course as her load
  - Both will be working with students in the Academic Skills Center at appropriate hours.
- Adding faculty videos to course, special touches and faculty specific teaching (purchased equipment in Spring)
Modularization- Breaking the material into measurable chunks…

• All students will not need all the same modules, but based on individual student need and/or college level math course needs.
• Students can complete modules at faster pace and move on into college-level mathematics sooner.
Chapter 3. Introduction to Graphing and Equations of Lines

Animation
- Plotting Ordered Pairs
- Graphing a Vertical Line
- Graphing Linear Equations
- Mountain Hiking: slope
- Equations in Slope-Intercept Form
- Finding the Slope and y-intercept From the Equation
- Point-Slope Form
- Graphing a Linear Inequality

Multimedia Textbook
- 3.1 The Rectangular Coordinate System and Equations in Two Variables
- 3.2 Graphing Equations in Two Variables
- 3.3 Slope
- 3.4 Slope-Intercept Form of a Line
- 3.5 Point-Slope Form of a Line
- 3.6 Parallel and Perpendicular Lines
- 3.7 Linear Inequalities in Two Variables

PowerPoint
- 3.1 The Rectangular Coordinate System and Equations in Two Variables

Section Video Lectures
- 3.1 The Rectangular Coordinate System and Equations in Two Variables
Chapter 8: Roots and Radicals

Chapter 9: Quadratic Equations

Chapter 10: Graphs of Quadratic Equations in Two Variables and an Introduction to Functions

Appendix A: Table of Square Roots
View Appendix A from your textbook.

Appendix B: Geometry Review

Answers to Selected Exercises
View the Answers to Selected Exercises from your textbook.

Applications Index
View the Applications Index from your textbook.

Subject Index
View the Subject Index from your textbook.
Keys to success

❖ Faculty buy-in
❖ Administration buy-in
❖ Training
❖ Technology tool
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