

Course Transformation Academy

COURSE REDESIGN PLAN

Course # and Title: Math 115 – College Algebra

Team Leader: Derrick Bowman

1. Describe the problems or challenges you are trying to solve with course redesign.

The largest problem is our pass rates. Often times students do not do the homework in math classes. We've redesigned the course to require all professors/instructors to assign a common set of homework problems across all sections. This homework is completed online and gives immediate feedback to the students. The homework is also now calculated consistently across all sections and included in their final grade calculation.

This is a large change as not every professor was assigning homework, let alone grading it or giving feedback.

2. Describe the strategies you are using to address the course's problems/challenges.

The online homework provides specific feedback on each question the student gets incorrect. As well, there are videos for many of the homework questions which provides more resources for the students.

The homework is set up in this way. The students complete a Study Plan for the section, earning Mastery Points when they earn 80% on a formative, non-graded assessment. This provides the student the opportunity to get questions incorrect but not be penalized for them. After the Mastery Points are earned, the students takes a "Pre-Quiz" over the content. This Pre-Quiz determines dynamically for each student the homework that is assigned to the individual student. The student then completes the homework for points.

There are also summative quizzes that help to keep the student on track and understanding the material. As instructors, we can use the data from the Pre-Quiz to target the material needed for greater discussion during future classes. This helps to reinforce the material as well as fill in gaps for the students.

3. Describe what NCAT model your course redesign approach is most consistent with and why.

This is a combination of the Supplemental Model and Replacement Model with a Buffet Model design for the homework. We are supplementing some course information through the videos in the online homework. We've replaced the in-class homework (if the professor assigned any) with online homework that all sections must complete. We then, with the

help of the pre-quiz, determine exactly what the student needs more help on as well as what questions the students need to practice, leaving out any questions the student has already mastered in the Pre-Quiz.

4. Describe your assessment plan below and complete the Assessment Plan (Excel file).

In 2013-14, the department approved a course wide final exam, the common final. I have the prior 2014-2015 academic year's data on the final exam scores as well as their final course grade. The plan is to evaluate what happens with this Fall 2015 final exam scores. We have around 1200 student data points from the prior year. This should give us some valuable data to work with.

We will be also looking at the overall scores from the previous year and comparing them. There may be some discrepancies as we have the 45% rule for the final exam. (Any score below a 45% on the final automatically earns the student an F regardless of their overall percentage.) These two data points combined should give us a good picture of the efficacy of the changes.