

OVERVIEW

ECU received the UNC Student-Success Grant in support of implementation of an adaptive learning project. In the process of redesigning and piloting a quantitative literacy general mathematics course for non-STEM majors, ECU adopted ALEKS, an adaptive learning courseware system. The new course was piloted in Fall 2018 with continual adjustments being made for Spring 2019.

CHALLENGE

Design a course that is...

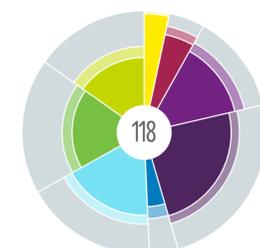
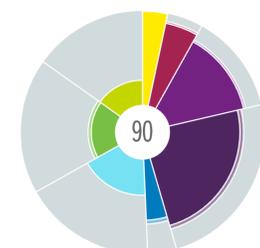
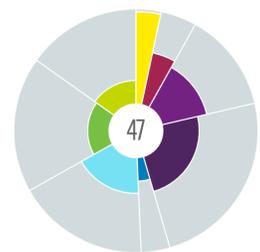
- Adaptive
- Able to serve students of diverse ability and background
- Rigorous
- Supported by the University at large
- Appeals to non-STEM students
- Supports at least 3 ECU Stretch Goals
- Amendable to being taught by graduate students and contingent faculty
- Adoptable by other UNC's

PROCESS

- Identify stretch goals, areas of need, and key areas of study
- Review current Quantitative Literacy courses and resources
- Submit Proposal to UNC System
- Write course pack and ALEKS course
- Release to faculty
- Edit course pack and content
- Pilot
- Edit again
- Pilot new delivery method

CURRICULUM

- Algebra
 - Exponents & Scientific Notation
 - Linear Equations
 - Ratio, Proportions, & Variation
 - Rectangular Coordinate System, Linear Equations, Graphing & Slope of a line
 - Functions
 - Simple & Compound Interest
 - SALT Money
- Geometry
 - Points, Lines, Planes, & Angles
 - Triangles
 - Right Triangle Trigonometry
 - Fractals
 - Tessellations
- Probability
 - Fundamental Counting Principle
 - Permutations & Combinations
 - Odds and Expectations
 - Addition & Multiplication Rules
 - Conditional Probability
 - Binomial Distribution
- Statistics
 - Gathering and Organizing Data
 - Measures of Average, Variation, & Position
 - Normal Distribution



STRETCH

The course design is intended to support four of ECU's stretch goals

- Rural Completion
 - Tier 1 & Tier 2 Counties
- Five-Year Graduation Rates
 - Increase financial literacy to decrease stop outs
- Undergraduate Degree Deficiencies
 - Remove barrier of general math requirement
- Research Productivity
 - Ability to read research paper within major

HORIZON

What's next?

- Obtain a laboratory environment to better support the course design
- Write additional hands on activities for inclusion in the course pack
- Breakdown of data to evaluate overall success of new course design in relation to institutional learning goals

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