

Functions and Modeling

Functions and Modeling is a requirement for math majors in the UTeach program. In this exploration of secondary mathematics concepts, prospective mathematics teachers are expected to do the following:

- Deepen and broaden function-related mathematical content knowledge from algebra through calculus
- Make connections between college mathematics and secondary school mathematics
- Build preliminary knowledge of professional and state mathematics curriculum standards
- Use reflective and collaborative learning and develop a stronger sense of professionalism and leadership
- Become efficient seekers and presenters of mathematics content knowledge and history
- Explore and learn appropriate use of technology in the mathematics classroom

A point is made to cover content that is traditionally glossed over by secondary teachers but is essential to preparing students for university mathematics courses. This slighted content includes parametric and polar objectives, linear and matrix algebra, regression aspects of statistics, and growth and decay exponential models.

Course Objectives: Functions and Modeling

Students Will Be Able To:	Evidence (Student Products)
Deepen and broaden function-related mathematical content knowledge	Classroom activities Assessments Discussions
Generate relevant data and use regression, matrix, function pattern, and systems methods to model the data	Classroom activities Classroom labs
Present mathematics ideas and topics in a knowledgeable and effective manner	Classroom presentations of findings Discussions
Explore and learn appropriate use of technology in the mathematics classroom	Classroom activities Classroom labs Assessments Discussions
Identify connections between the various levels of secondary mathematics curriculum and between secondary and university level curriculum	Classroom activities Discussions