

1035-D1-1494 **Eileen Fernandez*** (fernandeze@mail.montclair.edu), Montclair State University,
Department of Mathematical Sciences, 1 Normal Avenue, Upper Montclair, NJ 07043. *Developing
Algebraic Understanding With Excel.*

This proposal considers a course I designed intended to "expose students to aspects of mathematics that are useful in everyday life" and "develop algebraic techniques learned in a prior basic algebra course." Designed around modeling with Excel, I use Excel's table, algebra, and graphing capabilities to concurrently study relationships between numerical, algebraic and geometric representations of problems. Excel's referencing features provide opportunities to study constant and variable behavior with changing conditions.

In my presentation, I describe how topics studied contribute to an algebraic understanding of formulas underlying a target spreadsheet we design that amortizes a loan. To illustrate with a few examples: modeling financial compounding, logistic growth, or future investment values provide opportunities to study recursive and function relationships; to write corresponding formulas; to solve exponential and rational equations; to get practice with percents, patterns, sequences, and factoring; and to make decisions over fixing or altering variables, all of which are important to students' algebraic development. Using sample work and quotations, I demonstrate students' willingness to understand algebraic techniques that they typically characterize as irrelevant. (Received September 20, 2007)