MTED 612
Data Analysis for Middle School Teachers (3 units)

Course Outline

Topics		# of Weeks
Chapter 1:	**Come to Your Census:** Using U.S. Census microdata to study univariate data and representations; writing Boolean filters; making conjectures and testing them	1
Chapter 2:	**Lines and Data:** Studying linear situations represented in scatter plots; the meaning of slope and intercept	1
Chapter 3:	**Per Portions:** Using proportions to compare states, especially using rates and per-capita quantities in an automotive context; using proportions to answer some sophisticated estimation questions	1
Chapter 4:	**Straighten Up:** Using Fathom's prodigious algebra capability to straighten nonlinear data and to find nonlinear fits and their residuals	1
Chapter 5:	**Lines and Leverage:** Avoiding computational "pitfalls" and estimating parameters more accurately using a wider domain	1
Chapter 6:	**Describing and Modeling Change:** Exploring and simulating time-series data; looking for trends with real-world connections	1
Chapter 7:	**What to Do with Leftovers:** Making residual plots using both linear and nonlinear functions; finding features that are invisible in the original graph; developing goodness-of-fit criteria	1
Chapter 8:	**Under a Cloud:** Studying variability in one and two dimensions, beginning with a random walk; measures of spread and work with correlation and association	2
Chapter 9:	**Probability through Simulations:** Constructing simulations to study probability; sampling from a population; using random numbers and functions to generate data	2
Chapter 10:	**Inference with Fathom:** Testing hypotheses and generating confidence intervals through simulation; inventing measures; various t-tests, chi-square tests, and formal confidence intervals	2
Tests:		1

Textbooks: Elementary Statistic by Bluman and
Data in Depth, Exploring Mathematics with Fathom by Tim Erickson

Adopted: March, 2007