MATH 205 — Mathematical Concepts and Structures II

Beckmann, S. (2014). *Mathematics for Elementary Teachers with Activities.* Boston, MA: Pearson Education Inc. Custom edition for TU available.

The software *Tinkerplots*, 2nd Edition, is required for students in this course. It can be downloaded from this site: https://www.tinkerplots.com/get

Chapter 7. Ratio and proportional relationships

7.1	Motivating and Defining Ratio and Proportional Relationships (Meaning and representations of Rate, Ratio, Proportion)	*0.5 week*
7.2	Solving Proportion Problems by Reasoning with Multiplication and Division (Solving proportion problems)	*1 week*
7.3	Unit Rates and the Values of a Ratio (Unit rates and Scale factors)	*1 week*
7.5	Percent Revisited: Percent Increase and Decrease (Solving Percent Problems	*1.5 weeks*

Chapter 9. Algebra

9.2	Mathematical Expressions with Variables	*0.5 week*
9.4	Solving Equations	*0.5 week*
9.5	Solving Algebra Word Problems with Strip Diagrams and with Algebra	*1 week*
9.6	Sequences	*1 week*
9.7	Functions	*0.5 week*
9.8	Linear Functions	*1 week*

Chapter 15. Statistics

15.1	Formulating Statistical Questions, Gathering Data, and Using Samples (Intro to Statistics: Formulating Questions, Designing Investigations, and Gathering Data)	*1.5 weeks*
15.2	Displaying Data and Interpreting Data Displays	*1 week*
15.3	The Center of Data: Mean, Median, and Mode (Central Measures)	*1.5 weeks*
15.4	Summarizing, Describing, and Comparing Data Distributions (Weighted mean, Data Distributions: Summarizing, Describing, and Comparing)	*1 week*

NOTE:
1. There are two tests implemented during the semester, in total of one week.
2. Other topics may be included if time permits.

April, 2018