

MATH 323 Teaching Mathematics in Elementary Education Course Content Outline

Current Textbook: *Elementary and Middle School Mathematics: Teaching Developmentally, 9th Ed.* Boston, MA: Pearson Custom Education, Inc. Van de Walle, John A., Karen S., and Bay-Williams, Jennifer. (2012). No access code is needed.

Although classes are generally organized by mathematical content topics, emphasis will be on pedagogical and assessment approaches which support teaching for understanding. Throughout the semester, the following pedagogic topics will receive particular emphasis:

Week	Class Topic	Readings
1	Introduction to course Reform movement in math NCTM Standards and Curriculum Focal Points Common Core State Standards.	Van de Walle: Chapter 1 Appendix A: Standards for Mathematical Practice (pg A1-3)
2	Teaching from a Problem-Based Perspective Student-Centered Instruction Planning in the problem-based classroom	Van de Walle: Chapter 2 Van de Walle: Chapters 3 Van de Walle: Chapters 4
3	Teaching Mathematics Equitably	Van de Walle: Chapters 6
4	Pre-Number Concepts (describing attributes, comparing, matching, sorting, seriating) The Language of Math	Van de Walle: Chapter 8
5	Developing Number Sense, Estimation, and Mental Computation	Van de Walle: Chapter 12 (Topic: “ <i>Computational Estimation for Add/Sub</i> ”) Van de Walle: Chapter 13 (Topic: “ <i>Computational Estimation for Mult/Div</i> ”)

6	Developing Meaning for Whole Number Operations (Addition and Subtraction)	Van de Walle: Chapter 9* Van de Walle: Chapter 10* Van de Walle: Chapter 12 *For these chapters, the topic is Addition/Subtraction
7	Base ten concepts Place value	Van deWalle: Chapter 11
8	Strategies for Whole Number Computation (Multiplication/Division)	Van de Walle: Chapter 9* Van de Walle: Chapter 10* Van de Walle: Chapter 13 *For these chapters, the topic is Multiplication/Division.
9	Geometric Thinking and Geometric Concepts	Van de Walle: Chapter 20
10	Developing Fraction Concepts	Van de Walle: Chapter 15
11	Developing Fraction Operations	Van de Walle: Chapter 16
12	Developing Measurement Concepts	Van de Walle: Chapter 19
13	Algebraic Thinking, Equations and Functions	Van de Walle: Chapter 14
14	Data Analysis and Statistics (as a separate topic, or imbedded in other weeks)	Van de Walle: Chapter 21

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