Common Core and Mathematics: Grades 6 – 8

In the *Common Core and Mathematics: Grades 6 – 8*, you will explore the Common Core Standards for Mathematics (CCSSM). This course will provide information on the background of the new standards as well as details on the standards for content and the standards for practice. Additionally, the course covers the six domains for grades 6 – 8 including strategies, ideas for assessment, and common misconceptions.

By the end of this course, you will have an understanding of these topics, along with some ideas and tools on how to implement the CCSSM in your classroom.

Course Objectives

After completing this course, you should be able to

Module 1

- Recognize the rationale and the advantages of having a common set of standards across the states.
- Examine the sequence of standards and the rationale behind it.

Module 2

- Understand the structure and organization of the Common Core State Standards for Mathematics, including the conceptual categories, domains, clusters, and standards.
- Connect the five building blocks of mathematics with the conceptual categories.
- Recognize the appropriate usage of the various types of representation.

Module 3

- Recognize the eight standards for mathematical practice and how including all standards in the curriculum increases the chance that students will be successful in math.
- Adapt strategies to develop the eight standards for mathematical practice in your classroom.

Module 4

- Interpret the intended outcomes for the topics of ratios and proportional relationships and the number system in the Common Core.
- Develop instructional strategies using manipulatives (objects or virtual) or technology to encourage mathematical reasoning, to make math more meaningful to students, and to encourage deeper understanding of ratios, proportional relationships, and the number system.

Module 5

- Interpret the intended outcomes for the topics of expressions & equations and functions in the Common Core.
- Develop instructional strategies using manipulatives and technology to encourage mathematical reasoning, to make math more meaningful to students, and to encourage deeper understanding of expressions, equations, and functions.

Module 6

- Interpret the intended outcomes for the topics of geometry and statistics & probability in the Common Core.
- Develop instructional strategies using manipulatives and technology to encourage mathematical reasoning, to make math more meaningful to students, and to encourage deeper understanding of geometry and statistics & probability.

Course Syllabus

Module 1	**Introducing the Common Core State Standards for Mathematics** Module Welcome • Media: Common Core 101 • Reading: The Common Core State Standards for Mathematics • Video: Writing the Math Standards • Video: The Importance of Mathematics Progressions Check for Understanding • Application: CCSSM—A First Look Module Journal
Module 2	**Standards for Mathematical Content** Module Welcome • Reading: Standards for Mathematical Content • Video: Promoting Creativity and Innovation in the Classroom • Reading: Visual Representation Check for Understanding • Application: Visual Representation Module Journal

Module 3	**Eight Standards for Mathematical Practice** Module Welcome • Reading: Standards for Mathematical Practice – An Overview • Video: Mathematics Fluency – A Balanced Approach • Extend Your Learning: *Educational Leadership* – Cover the Material—Or Teach Students to Think? • Video: The Importance of Mathematical Practices • Reading: The Eight Standards for Mathematical Practice: Standards 1 – 4 Check for Understanding • Reading: The Eight Standards for Mathematical Practice: Standards 5 – 8 • Video: 21st Century Skills • Application: The Eight Standards for Mathematical Practice Module Journal
Module 4	**Ratios & Proportional Relationships and the Number System** Module Welcome • Video: Math Curriculum Makeover • Reading: Ratios & Proportional Relationships and the Number System • Video: The Power of Formative Assessment to Advance Learning • Reading: *Educational Leadership* — Singapore Math - Simple or Complex? • Video: Gathering Momentum for Algebra Check for Understanding • Application: Practice Standards 1 and 2 in Your Classroom Module Journal

Module 5	**Expressions & Equations and Functions** Module Welcome • Reading: Expressions & Equations and Functions • Video: Dan Meyer on Real-World Math • Reading: *Educational Leadership* – Teaching the iGeneration • Video: Enhancing Learning with Technology Check for Understanding • Application: Practice Standards 4 and 5 in Your Classroom Module Journal
Module 6	**Geometry and Statistics & Probability** Module Welcome • Reading: Geometry and Statistics & Probability • Video: Actively Involving Students • Reading: *Educational Leadership* – Adventures with Cell Phones • Video: Arthur Benjamin's Formula for Changing Math Education Check for Understanding • Application: Practice Standards 3 and 6 in Your Classroom Module Journal

Resources

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