# COURSE SYLLABUS

**Course:** Common Core in Math: Instructional Shifts for Effective Implementation, Grades 6-8

**Presenter:** KDS

45 Hours

**Course Overview**

The Common Core State Standards (CCSS) originated in 2010 and are being readily adopted by the majority of states across the country. The standards aim to increase the rigor of instruction for all students in order to adequately prepare them for success in college and careers. In this course, participants will explore the Common Core State Standards for Mathematics (CCSS-M) in grades 3-5 to understand the purpose for the standards, the foundations of the standards, what students are expected to understand, know, and be able to do, and how this will impact teachers' approach to instruction. The course will address the combination of content standards and Mathematical Practice standards, the three shifts in emphasis and organization, how these shifts will impact classroom practice, as well as how to address the needs of diverse student populations. Through readings, classroom instructional videos, and other materials, participants will gain a strong understanding of the standards and their application. Participants will become informed educators who can implement the standards with fidelity in their school or district.

**Learning Objectives**

After completing this course, participants will know:

- The purpose and organization of the Common Core Standards (CCSS) for Mathematics and CCSS for Mathematical Practices.
- The CCSS-M three major shifts in content, organization, and instructional emphasis on focus, coherence, and rigor.
- The eight standards for Mathematical Practice which are integrated throughout K-12 and are intended to increase in sophistication with the content standards; specific examples of the Mathematical Practices in action.
- The value and purpose of formative assessment to regularly inform instruction around the CCSS-M.
- The ways in which a teacher can implement the instructional shifts.
- The impact of the standards on planning, instruction, and assessment.
- Their goals for planning instruction and aligning to the CCSS.

**Course Outcomes:**

After completing this course, participants will be able to communicate the purpose and understand the value of implementing the CCSS-M in their school.

- Evaluate their instructional practice for alignment to the shifts and practices of the CCSS-M.
- Plan standards-aligned lessons for grades 3-5 students using the combination of standards for mathematical content and practices.
- Identify demonstrations of the standards for Mathematical Practices in action.
- Plan and design formative assessments to regularly inform instruction and student supports.
- Design curriculum and lessons that incorporate the instructional shifts.
- Develop units of study and lesson plans using a backwards-design method and include diverse learning paths for all learners.
- Revisit learning goals and begin planning lessons and designing tasks aligned to the CCSS

**Unit 1: Introduction to CCSS Mathematics**

Unit Overview:
In this course introductory unit, participants will explore the Common Core State Standards for Mathematics in grades 3-5 (CCSS-M) to understand the purpose for the standards, the foundations of the standards, what students are expected to know and how this will impact teachers' approach to instruction. Participants will also set goals for the course to guide their personal learning experience.

**Objectives**

After completing this unit, educators will know:

- The purpose and organization of the Common Core Standards (CCSS) for Mathematics and CCSS for Mathematical Practices.

**Student Learning Outcomes**

After completing this unit, educators will have the knowledge, skills and practical strategies to:

- Evaluate their instructional practice for alignment to the shifts and practices of the CCSS-M.

**Readings**

- "Introduction: Toward Greater Focus and Coherence" in the Common Core State Standards for Mathematics, pages 3-4
- "How to Read the Grade Level Standards" in the Common Core State Standards for Mathematics, page 5
- "Achieving the Common Core: Understanding the K-12 Common Core State Standards in Mathematics," Achieve

## Unit 2: The Common Core Mathematics Shifts

Unit Overview:
In this unit, participants will explore the standards to gain an understanding of grade-level expectations and content within the mathematics classroom. The CCSS Mathematics standards promote three shifts in organization and instructional emphasis: focus, coherence, and rigor. Participants will discover how the three shifts are intended to help students learn mathematics more deeply, with a solid combination of conceptual understanding and procedural skill. Participants will also observe evidence of these shifts in the classroom and consider instructional strategies to promote learning that deepens the mathematical understanding that the CCSS-M shifts emphasize, in order to prepare students for college and careers.

**Objectives**

After completing this unit, educators will know:

- The CCSS-M three major shifts in content, organization, and instructional emphasis on focus, coherence, and rigor.

**Student Learning Outcomes**

After completing this unit, educators will have the knowledge, skills and practical strategies to:

- Plan standards-aligned lessons for grades 3-5 students using the combination of standards for mathematical content and practices.

**Readings**

- "Making the Shifts"
- "The Structure Is the Standards"
- "Focus, Coherence, and Rigor in the Common Core State Standards for Mathematics"
- "Principles Regarding the Common Core State Standards for Mathematics"
- "Grade-by-Grade Standards Analyses Introduction"
- CCSS for Mathematics
- "Principles Regarding the Common Core State Standards for Mathematics"
- "Procedural Fluency: More Than Memorizing Math Facts"

## Unit 3: The Standards of Mathematical Practice, Part 1

Unit Overview:
In this unit, participants will learn about the standards for Mathematical Practice, how they can be grouped, and how they support students' learning of the content standards. Participants will explore the CCSS-M Mathematical Practice standards, also known as habits of mathematical thinkers, to gain an understanding of students' development of these mathematical practices within the mathematics classroom across grade levels.
**Objectives**

After completing this unit, educators will know:

- The eight standards for Mathematical Practice which are integrated throughout K-12 and are intended to increase in sophistication with the content standards; specific examples of the Mathematical Practices in action.

**Student Learning Outcomes**

After completing this unit, educators will have the knowledge, skills and practical strategies to:

- Identify demonstrations of the standards for Mathematical Practices in action.

**Readings**

- "Standards for Mathematical Practice"
- "Criteria for Materials and Tools Aligned to the Standards"
- "Standards for Mathematical Practice Observation Tool"

**Unit 4: The Standards of Mathematical Practice, Part 2**

Unit Overview:
In this unit, participants will learn about the standards for Mathematical Practice, how they can be grouped, and how they support students' learning of the content standards. Participants will explore the CCSS-M Mathematical Practice standards, also known as habits of mathematical thinkers, to gain an understanding of students' development of these mathematical practices within the mathematics classroom across grade levels.

**Objectives**

After completing this unit, educators will know:

- The eight standards for Mathematical Practice which are integrated throughout K-12 and are intended to increase in sophistication with the content standards; specific examples of the Mathematical Practices in action.

**Student Learning Outcomes**

After completing this unit, educators will have the knowledge, skills and practical strategies to:

- Identify demonstrations of the standards for Mathematical Practices in action.

**Readings**

- "The Modeling Cycle"

- “A Guide to 8 Mathematical Practice Standards”

**Unit 5: Focus on Formative Assessment**

Unit Overview:
In this unit, participants focus on the use of formative assessments that support educators in measuring students’ mastery of standards and inform next instructional moves.

The CCSS require students to complete new end-of-year summative assessments starting in third grade. There are several consortiums that have partnered with states to create these assessments. The Partnership for Assessment of Readiness for College and Careers (PARCC) is a consortium of 18 states plus the District of Columbia and the U.S. Virgin Islands working together to develop a common set of K-12 assessments in English and math anchored in what it takes to be ready for college and careers. These new K-12 assessments will build a pathway to college and career readiness by the end of high school, mark students’ progress toward this goal from 3rd grade up, and provide teachers with timely information to inform instruction and provide student support. The PARCC assessments will be ready for states to administer during the 2014-15 school year.

**Objectives**

After completing this unit, educators will know:

- The value and purpose of formative assessment to regularly inform instruction around the CCSS-M.

**Student Learning Outcomes**

After completing this unit, educators will have the knowledge, skills and practical strategies to:

- Plan and design formative assessments to regularly inform instruction and student supports.

**Readings**

- “The Best Value in Formative Assessment”
- “Formative Assessment and Assessment for Learning”
- “Formative Assessment: An Enabler of Student Learning”
- “Classroom Techniques: 10 Ideas for Formative Assessment”

**Unit 6: Making the Shifts Happen: Planning and Instruction, Part 1**

Unit Overview:
In this unit, participants will draw on their observations, learning, and reflections from the prior units in order to plan classroom lessons that align to the CCSS for Mathematics and promote the shifts in organizational and instructional emphasis. Participants will explore ways to meet the needs of ALL students in the classroom, not just those at or above grade level, including English Learners, students with special needs, and advanced (or gifted/talented). They will integrate these instructional strategies into lesson plans and explore resources to support and engage students in using Mathematical Practices to develop understanding of the CCSS-M content standards.

**Objectives**

After completing this unit, educators will know:

- The ways in which a teacher can implement the instructional shifts.

**Student Learning Outcomes**

After completing this unit, educators will have the knowledge, skills and practical strategies to:

- Design curriculum and lessons that incorporate the instructional shifts.

**Readings**

- "Inviting Student Engagement with Questioning"
- "What Are Some Strategies for Facilitating Productive Classroom Discussion"
- "Promoting Mathematical Thinking and Discussion with Effective Questioning Strategies"
- "Math, Common Core, and Language"
- "Fewer, Clearer, Higher Common Core State Standards: Implications for Students Receiving Special Education Services"
- "Effective Strategies for Teaching Students with Difficulties in Mathematics"
- "CCSS Issues and Recommendations for Gifted Education Professionals FAQ"

**Unit 7: Making the Shifts Happen: Planning, Instruction, and Assessment, Part 2**

Unit Overview:
In this unit, participants will draw on their observations, learning, and reflections from the prior units in order to plan classroom lessons that align to the CCSS for Mathematics and promote the shifts in organizational and instructional emphasis. Participants will learn the importance of developing mathematical tasks that require students to think deeply in order to foster the rich discussion emphasized by the Mathematical Practices, study the cognitive levels of a task, and learn strategies to design these kinds of tasks. They will integrate formative assessment into lesson plans in order to engage students in using mathematical practices to develop understanding of the content standards. They will also explore

resources to support and communicate with families about the CCSS-M.

**Objectives**

After completing this unit, educators will know:

- The impact of the standards on planning, instruction, and assessment.

**Student Learning Outcomes**

After completing this course, educators will have the knowledge, skills and practical strategies to:

- Develop units of study and lesson plans using a backwards-design method and include diverse learning paths for all learners.

**Readings**

- “What Exactly Do ‘Fewer, Clearer, and Higher Standards’ Really Look Like in the Classroom?”

Unit 8: Epilogue

**Unit Objectives**

After completing this unit, educators will know:

- Their goals for planning instruction and aligning to the CCSS.

**Student Learning Outcomes**

After completing this course, educators will have the knowledge, skills and practical strategies to:

- Revisit learning goals and begin planning lessons and designing tasks aligned to the CCSS.

**Readings**

- “What Exactly Do ‘Fewer, Clearer, and Higher Standards’ Really Look Like in the Classroom?”

**Methods of Instruction**

- Videos (consisting of lecture, interviews, and classroom footage)
- Readings
- Reflection questions (open-ended questions at intervals throughout the course which ask participants to reflect on the course content, their own practice, and next steps for their practice)
- Quizzes (selected-response quizzes to assess understanding)

**Plagiarism Policy**

KDS recognizes plagiarism as a serious academic offense. Plagiarism is the passing off of someone else's work as one's own and includes failing to cite sources for others' ideas, copying material from books or the Internet (including lesson plans and rubrics), and handing in work written by someone other than the participant. Plagiarism will result in a failing grade and may have additional consequences. For more information about plagiarism and guidelines for appropriate citation, consult plagiarism.org.

**Percentage of Course Credit**

- Reflections 60%
- Quizzes 40%

In order to complete the requirements of the course, the participant must complete all course work (e.g., reflections, quizzes), including watching all videos. We do not award partial credit.

**Grading Policy**

A: 3.4 – 4.0
B: 2.7 – 3.3
C: 2.0 – 2.6
F: >2.0

In order to complete the requirements of the course, the participant must complete all course work (e.g., reflections, quizzes), including watching all videos. We do not award partial credit.

**Reflection/Quiz Rubric**

| Activity | Distinguished (4) | Proficient (3) | Basic (2) | Unsatisfactory (1) |
|---|---|---|---|---|
| **Quizzes** | 90-100% | 80-89% | 70-79% | 69% or below |
| **Reflection Question** | Participant has provided rich detail and supporting examples from the course content.<br><br>Participant has made responses to prompts personally meaningful and relevant to his or her teaching practice. | Participant has included appropriate content from the course content.<br><br>Participant has made thoughtful comments in direct response to the prompts. | Participant has included little that indicates consideration and comprehension of course content.<br><br>Participant has answered most questions directly but some too briefly. | Participant has included little to no content indicating consideration and comprehension of course content.<br><br>Participant has not addressed the specific questions posed.<br><br>Participant has not responded to all reflection questions.<br><br>Participant has copied from the course transcript without synthesis or analysis. |