Overview

Algebra for Secondary Mathematics Teaching explores important conceptual underpinnings, common misconceptions and students’ ways of thinking, appropriate use of technology, and instructional practices to support and assess the learning of algebra. Secondary teachers should have an understanding of the following: algebra as an extension of number, operation, and quantity; various ideas of equivalence as it pertains to algebraic structures; patterns of change as covariation between quantities; connections between representations (tables, graphs, equations, geometric models, context); and the historical development of content and perspectives from diverse cultures. In particular, the focus should be on deeper understanding of rational numbers, ratios and proportions, meaning and use of variables, functions (e.g., exponential, logarithmic, polynomials, rational, quadratic), and inverses. Calculus I is a prerequisite for this course.

Competencies

- **Technology in Algebra**
  The graduate integrates technology to support and assess students’ learning of algebra.

- **Instructional Practices for Algebra**
  The graduate integrates instructional practices to support and assess students’ understanding of algebra.

- **Conceptual Algebra and Common Misconceptions**
  The graduate analyzes conceptual algebra underpinnings, common misconceptions, and students’ ways of thinking to create opportunities to learn.

- **Algebra Content, History, and Cultural Diversity**
  The graduate analyzes historical development, perspectives from diverse cultures, and content knowledge to deepen a student’s algebraic understanding.

Learning

**Getting Started**

Welcome to Algebra for Secondary Mathematics Teaching! In this course you will learn a variety of strategies that you can implement in teaching secondary algebra content. This course is delivered in the WGU module-based learning platform, which incorporates readings, videos, and a variety of interactive learning components. For the best experience, work through the modules in the order they’re presented. Your competency will be demonstrated by successful completion of a performance assessment.
Assessments

Performance Assessment: Algebra for Secondary Mathematics Teaching

Status: Not Attempted
Code: DMP1

Course Instructor Group
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