

Mathematics Content for Elementary Teachers Certificate (12 Credits)

The certificate in Mathematics Content for Elementary Teachers was created to give participants an in-depth understanding of the content knowledge, mathematical practices, content pedagogy, and mathematical learning environment necessary to teach elementary mathematics and collaborate effectively with teachers and other professionals. The certificate program enables practicing and prospective elementary teachers to engage in long-term, mathematics-specific professional development that emphasizes fundamental concepts and structures of elementary mathematics in number and operations, algebra and functions, geometry and measurement, and statistics and probability. Specifically, this certificate answers a call from numerous expert bodies that suggest elementary mathematics teachers complete a minimum number of courses (3-4) focused on mathematics content.

At the completion of this certificate program, candidates will be able to demonstrate a deep and broad understanding of mathematics content and an understanding of pedagogical knowledge for teaching elementary mathematics that addresses learners and learning, teaching, and curriculum and assessment. Candidates will be able to use effective instructional and assessment practices, diagnose mathematical misconceptions and errors and design appropriate interventions, and recognize and respond to multiple solutions to problems. Candidates will be able to choose and/or design tasks to support and test the learning of new mathematical ideas or methods. The Mathematics Content for Elementary Teachers Certificate requires 12 credits including three required courses on number and operations, geometry and measurement, and algebra and functions and one elective course on probability and statistics or rational numbers and proportional reasoning.

Students will take each of the following courses

		prerequisite	credits
MAT 310	Number and Operations for Elementary Teachers	EDU 257*	3
MAT 311	Geometry and Measurement for Elementary Teachers	EDU 257*	3
MAT 312	Algebra and Functions for Elementary Teachers	EDU 257*	3

Students will choose one of the following courses

		prerequisite	credits
MAT 313	Statistics and Probability for Elementary Teachers	EDU 257*	3
MAT 314	Rational Numbers and Proportional Reasoning for Elementary Teachers	EDU 257*	3

*or MAT 257 or instructor permission