

Advanced Teaching Certificate: Common Core Mathematics (K-8)

Patricia Swanson, Department of Elementary Education

Summary

The Advanced Teaching Certificate in Common Core Mathematics (K-8) is designed for practicing teachers and mathematics coaches. Courses focus on developing the mathematical knowledge for teaching (K-8) Common Core Standards and Mathematical Practices. Additional emphasis will be placed on pedagogical strategies to foster motivation, engagement, and the development of academic language in mathematics.

EDTE 230 Mathematics: Teaching Common Core (K-3)

EDTE 231 Math Seminar: Common Core (K-3)

EDTE 232 Mathematics: Teaching Common Core (4-8)

EDTE 233 Math Seminar: Common Core (4-8)

Three of the four courses (9 units) are required to earn an Advanced Teaching Certificate in Common Core Mathematics (K-8). Nine units may be transferred into a Master of Arts in Education with a concentration in Curriculum and Instruction.

Rationale

The Advanced Teaching Certificate in Common Core Mathematics (K-8) addresses three critical needs in our service region. First, the certificate program will enhance K-8 teachers' conceptual understanding of the mathematics they teach. Second, the certificate courses will support teachers' implementation of newly adopted Common Core mathematics standards and practices. Finally, each certificate course will help practicing teachers develop the pedagogical expertise necessary to make mathematics accessible and engaging to the academically and linguistically diverse student populations they serve.

Certificate Objectives

The Advanced Teaching Certificate in Common Core Mathematics (K-8) is designed for practicing teachers and mathematics coaches. ***Courses and be taken individually or in combination, with three of the four courses required to earn the Advanced Teaching Certificate.*** EDTE 230 and 231 are designed for primary teachers (grades K-3) and focus on math content specific to those grade levels. EDTE 230, offered in the summer, provides a foundation in teaching number and operations, while EDTE 231, offered as a hybrid evening seminar, focuses on teaching measurement, geometry, and data. Similarly, EDTE 232 and 233 are designed for upper grade teachers (grades 4-8) and focus on math content specific to upper elementary and middle school. EDTE 232, offered in the summer, focuses on number, operations, proportional reasoning, and algebraic thinking, while EDTE 233, offered as a hybrid evening seminar, focuses on measurement, geometry, probability, and statistics.

To earn the Advanced Teaching Certificate teachers must complete three of the four classes, two within their grade level band and the third providing what we call horizon knowledge, an understanding of the mathematics leading into their grade level or following it. Teachers earning the full certificate will be particularly well suited to serve

as mathematic coaches for their district or school, with the ability to help colleagues in a wide range of grade levels.

The Advanced Teaching Certificate in Common Core Mathematics has three broad purposes:

- 1) To enhance teachers' mathematical knowledge for teaching
- 2) To assist teachers in implementation of newly adopted Common Core Mathematics Standards
- 3) To foster teachers' use of effective pedagogical practices for teaching mathematics with specific emphasis on practices designed to address the needs of academically and linguistically diverse student populations.

Instructor:

Patricia Swanson is an Associate Professor in the Department of Elementary Education at San José State University where she currently teaches primarily mathematics methods courses. Her current research focuses on mathematics and teachers' strategic integration of pedagogical content knowledge, the development of academic language, and the incorporation of social and emotional learning skills pertinent to teaching young adolescents mathematics. She frequently provides professional development to school districts and recently completed a three-year initiative with Campbell and Santa Clara districts focused on enhancing teacher content knowledge and student achievement in mathematics (Grades 5-9). This work resulted in significant gains in both teacher content knowledge and student achievement (Swanson, 2011). Dr. Swanson is well positioned to assist districts and teachers in transitioning to the newly adopted mathematics Common Core standards.

Logistics

The Certificate courses are currently scheduled to be offered through Special Sessions. Non-matriculated students (practicing teachers) will have access to university courses through Open University. In addition to serving the needs of districts, the Certificate program is intended to serve as a pathway for practicing teachers to return to the university and ultimately enroll in a master's degree program, transferring Certificate units into the MA in Curriculum and Instruction.

Admissions and Requirements

Certificate courses are open to all post-baccalaureate students. Students must maintain a minimum GPA of 3.0 to receive an Advanced Teaching Certificate in Common Core Mathematics (K-8).

For information on course registration contact:

Marie Kochevar, Department of Elementary Education
marie.kochevar@sjsu.edu

Certificate Advisor: Dr. Patricia Swanson, Department of Elementary Education
patricia.swanson@sjsu.edu