

MATHEMATICS EDUCATION GRADUATE CERTIFICATES

e-Learning

Contact: Dr. Virgil Fredenberg
(907) 796-6082
vgfredenberg@alaska.edu

Mathematics Education K-5

The Mathematics Education K-5 Certificate is a culturally responsive program designed to provide K-5 teachers with a deeper understanding of mathematical content and pedagogy. This program emphasizes nontraditional, hands-on methods and approaches providing both rigor and pedagogy. It is designed to help teachers develop a deeper understanding of the mathematics they teach, build their mathematical knowledge, and develop the habits of mind of a mathematical thinker and problem solver. Topics addressed include: problem solving; numeration and operations; algebra and functions; geometry and measurement; data analysis; statistics and probability; and the use of technology for teaching and learning mathematics. Problem Solving, Reasoning, Communication, and Connections as emphasized in state and national standards will be incorporated in all courses in the program. It is expected that those enrolled in the program will complete it in 18 months.

Mathematics Education K-8

The Mathematics Education (K-8) Certificate is a culturally responsive program designed to provide K-8 teachers with a deeper understanding of mathematical content and pedagogy. The courses will emphasize non-traditional, hands-on methods and approaches providing both rigor and pedagogy. Topics addressed include: problem solving; numeration and operations; algebra and functions; geometry and measurement; data analysis; statistics and probability; and calculus and trigonometry. ED S608 and ED S614 are offered on Juneau campus during summer session. Remaining courses in the program may be offered by e-Learning. It is expected that those enrolled in the program will complete it in 18–24 months.

Admission Requirements Education Certificate

1. Application for admission and \$60 non-refundable admission fee.
2. Copy of a current Alaska teaching or administrative certificate.
3. Two Letters of Recommendation on SOE form.
4. Official transcript(s) indicating a baccalaureate degree and a GPA of 3.00.

Additional information and links at: uas.alaska.edu/education/programs/grad-cert-math.html (<https://uas.alaska.edu/education/programs/grad-cert-math.html>)

Mathematics Education K-5

Requirement	Hours
Minimum Credit Hours	18

Code	Title	Credits
EDMA S608	Mathematical Problem Solving for K-8 Teachers	3
EDMA S614	Numeration and Operations: Mathematics for K-8 Teachers	3

EDMA S654	Algebra and Functions: Content and Pedagogy for K-8 Teachers	3
EDMA S655	Geometry and Measurement: Content and Pedagogy for K-8 Teachers	3
EDMA S656	Data Analysis, Statistics, and Probability: Content and Pedagogy for K-8 Teachers	3
EDMA S658	Technology for Teaching and Learning Mathematics	3
Total Credits		18

Exit Requirements

1. GPA of 3.00
2. Satisfactory completion of all courses

Mathematics Education K-8

Requirement	Hours
Minimum Credit Hours	21
Certificate Requirements	21

Code	Title	Credits
Certificate Requirements		
EDMA S608	Mathematical Problem Solving for K-8 Teachers	3
EDMA S614	Numeration and Operations: Mathematics for K-8 Teachers	3
EDMA S654	Algebra and Functions: Content and Pedagogy for K-8 Teachers	3
EDMA S655	Geometry and Measurement: Content and Pedagogy for K-8 Teachers	3
EDMA S656	Data Analysis, Statistics, and Probability: Content and Pedagogy for K-8 Teachers	3
EDMA S657	Calculus and Trigonometry: Content and Pedagogy for K-8 Teachers	3
EDMA S658	Technology for Teaching and Learning Mathematics	3
Total Credits		21

Exit Requirements

1. GPA of 3.00
2. Satisfactory completion of all courses