



Math Specialists In International Schools

Mathematics Specialist in International Schools (MSIS) is a 2 year certificate program designed for K-8 classroom teachers of mathematics. The program is a cohort program focusing on mathematics content specific to the K-8 AERO Mathematics Standards. The design of the program is a coherent sequence of five 3 day institutes designed to enhance teacher understanding of the mathematics, how student learn the mathematics, and how to determine evidence of student understanding of the mathematics.

Requirements

- Bachelor's Degree from an accredited institution
- A valid Education Teaching license
- Currently teaching mathematics, K-8, in an international School
- A letter expressing interest and a commitment to the 2 year program
- A letter of recommendation from current school

Institutes

Year 1 Fall Numbers and Operations

The focus is on the content and the mathematical practices which support the Numbers and Operations progressions of the AERO Standards. Attention will be given to

A Math Specialist is one who is passionate about teaching and wants to further develop their mathematical knowledge, their teaching skills, and their ability to mentor and support the professional development of their colleagues.

ways of representing numbers, relationships between number systems, the meaning of operations and how they relate to one another, and computation within the number system as a foundation for algebraic thinking.

Year 1 Spring Algebraic Thinking

The focus is on the content and mathematical practices which support the Algebra and Functions progressions of the AERO Standards. Attention will be given to the transition from arithmetic to algebra, working with quantitative change and the description of and prediction of change. A focus will be the importance of providing opportunities for students to engage in solving rich mathematical tasks.

Year 2 Fall Proportional Reasoning

The focus is on the content and the mathematical practices which support the rational numbers and proportional reasoning progressions of the AERO standards. Attention will be given to the progressions of fractions, rational numbers, decimals, percents, and ratio and proportions to develop proportional reasoning skills. Problem solving is a major emphasis of the institute.

Year 2 Spring Geometry and Measurement

The focus is on the content and the mathematical practices which support the Geometry and measurement progressions of the AERO Standards. Attention will be given to the foundations of informal measurement and geometry. The van Heile model for geometric learning will be used as the framework to demonstrate how students build their understanding of these concepts.

NOTE: **Institute 5** can occur at end of year 1 or year 2

Assessment in the Mathematics Classroom (Reflection on Teaching and Learning)

The focus is on assessment of conceptual understanding and procedural knowledge. Participants will examine current research related to mathematics assessment

to direct and improve instructional practices. They will explore the way in which different assessment methods are aligned with specific learning targets and develop skills in creating specific clarifying and probing questions. A focus will be on the 4 criteria for assessing mathematics proficiency.

Note: An important part of all the institutes is the opportunity for teachers to become a part of a collaborative and supportive team engaging in the problem solving cycle. This provides an opportunity to think more deeply about the mathematics content, instruction and assessment. Teacher commitment to the MSIS demonstrates a willingness to broadening their mathematics knowledge base, and consequently, to become better able to support their students' learning of mathematics.

For more information about hosting an MSIS cohort or for a schedule of current cohorts, contact Project AERO or Erma Anderson at globalmathteacher@gmail.com