NYS Master Teacher Program

BUFFALO STATE
The State University of New York

Landscapes of Learning Mathematics
Professional Development for Master Teachers, P-8 Teachers, Coaches & Supervisors

The Western Region of the New York State Master Teacher Program is excited to offer a fifth course in the mathematical landscapes of learning series that focuses on the big ideas, strategies, and models related to geometrical, spatial, and measurement thinking in the elementary and middle grades. As with previous courses, content will be situated within a landscape of learning framework[1] that is based on the premise that students' mathematical thinking develops through a progression that begins with contexts or concrete tasks followed by pictorial representations and culminating in abstract perspectives. Exploration of Common Core strands across the grade levels will provide opportunities for participants to share their grade level expertise and to enhance their understanding of the coherent development of topics along the K – 8 spectrum. Each participant will receive a CTLE certificate for 12 hours of professional development. First-time participants will also receive a set of 6 large dry-erase boards (24x32) for small group work presentation.

The minicourse will meet Mondays and Wednesdays at Buffalo State, from 5:00 PM - 8:00 PM. We will provide food and beverages so please join us at 4:30 before the session begins to allow time to eat.

Landscapes V: October 16, 18, 23, & 25 5:00 PM – 8:00 PM, SAMC 259

Geometry, Spatial Sense, and Measurement

In this minicourse we will explore fundamental ideas related to the classification of 2-D and 3-D shapes, spatial orientation, and geometric measurement. The landscape of learning related to the classification of shapes progresses from children's early visual-based categorizations to an increased focus on attributes and properties within categories of shapes, and culminates in an understanding of the hierarchical relationships among different classes of shapes. Within this progression are important ideas related to the role of definition, the nature and need for proof, and geometric measurement. A second area of focus will be on the landscape that maps the development of spatial reasoning and positional awareness. Content involving shape composition and decomposition, the specification of location using coordinate grids, transformations in the plane, and the Pythagorean theorem will also be explored. Our discussions will focus on sharing classroom practices that foster students' growth across the landscape and take advantage of the range of grade level perspectives that will be represented. Concrete tools for thinking including tiles, blocks, sketches and drawings, shape sets, and geoboards, as well as apps and computer graphics and coding, will be an integrated in course activities.

There is no cost for this workshop! The workshops are open to all Master Teachers, P-8 teachers, coaches, and supervisors. Seating is limited so please register soon at
https://wnymasterteachers.wufoo.com/forms/landscapes-v/

If you have questions, please contact Buffalo State Master Teacher Program at msmt@buffalostate.edu

[1] The landscape model is based on the work of Catherine Fosnot as documented in her *Young Mathematicians at Work* series.