Cornell University
Department of Mathematics
MATH 5080 – Mathematics for
Secondary School Teachers

**NYS Master
Teacher Program**

Mathematics Professional Development (all sessions will be held via Zoom)

January 30, 2021   ◆   9:00 am – 2:30 pm

9:00 – 9:15 am   **Welcome & Overview**

9:20 – 10:50 am   **Integrated Math & Science Education: Theory, Classroom
                              Practice, Benefits, and Challenges**
Dina Kushnir (Fayetteville-Manlius High School)
Mary Ann Huntley (Department of Mathematics, Cornell Univ.)

We will examine the concept of integrated math and science education from several perspectives. We will begin by offering a theoretical framework to unpack what is meant by "integrated math and science." and then share results of an empirical study at the middle-grades level. Next we'll discuss the fact that high-school students hear all the time that "math is the language of science," but do they really experience that in the classroom? We'll focus on how math and science teachers can revamp the science labs they are already doing to make them more mathematically and analytically enriching experiences. We will conclude by discussing benefits and challenges of teachers collaborating across the boundaries of math and science.

11:00 am – 12:00 pm **The Regents Exam: Theory and (Mis)Application**
David Dickerson (Mathematics Department, SUNY-Cortland)

Why is the Regents so hard that it has to be curved just so students can pass it? That question has so much wrong with it that it's hard to know where to begin. Parsing this question will take some time. To that end, this session will include a walk through the process of creating, administering, grading, and scoring a Regents exam and an introduction to psychometrics, the purpose of the tests, and the significance of performance levels, as well as common misinterpretations and misuses of Regents scores.

12:00 – 12:50 pm   **Lunch & Discussion**

In breakout rooms, participants will discuss the morning's presentations and share summaries of their discussions with the whole group.

1:00 – 2:00 pm   **Latin Squares**
Marcelo Aguiar (Department of Mathematics, Cornell University)

In this session I will speak about Graeco-Latin squares, a tiny bit of algebra (groups and finite fields), and geometry (finite projective geometries). I will explain how these different areas of mathematics interact in unexpected ways.

2:00 – 2:20 pm   **Whole-Group Discussion**

2:20 – 2:30 pm   **Closing**

Click here to RSVP (deadline – 12 noon on Tuesday, January 26, 2021)
Questions? Contact Mary Ann Huntley (huntley@math.cornell.edu)