



Cornell University
Department of Mathematics
K-12 Education and Outreach

MATH 5080 – Mathematics for Secondary School Teachers

October 5, 2019 ◆ 9:00 am – 2:30 pm (lunch provided) ◆ 406 Malott Hall

8:45 – 9:00 am Bagels & Juice (provided)

9:00 – 9:20 am Introductions

9:20 – 10:20 am Business Math for Entrepreneurs

Lee Kaltman, M.A.T. (New Roots Charter School)

I will describe the course called *Business Math for Entrepreneurs*, share some student work, and explain how I use real-world experiences to engage and motivate students to want to learn more.

10:30 – 11:30 am The Beauty of Calculus

Steven Strogatz, Ph.D. (Cornell University, Mathematics)

Based on my new book, *Infinite Powers: How Calculus Reveals the Secrets of the Universe*, I will present a broad look at the story of calculus, focusing on the connections between calculus and the laws of nature.

11:30 – 12:00 pm Lunch (provided)

12:00 – 12:50 pm Teaching Statistics in the Age of Data Science

Michael Nussbaum, Ph.D. (Cornell University, Mathematics)

I will try to summarize my 20 years of experience teaching statistics at Cornell, focusing in particular on the basic undergraduate course, which is a slightly more advanced version of AP Statistics. This course always includes a computer component, but new challenges have arisen with the advent of “Data Science,” which promises to revolutionize both the practice and the teaching of statistics, and applied mathematics in general, by total integration with computing. I will conclude with a demonstration of how some of the new CS-inspired courses are taught at Cornell, with on-screen computing using software like R or Python. It is my goal to show how traditional statistics courses can benefit from these new ideas, while preserving clarity about the basics of inference, and accessibility to a broad audience of non-STEM students.

1:00 – 2:30 pm Incorporating Sustainability into the K-12 Math Curriculum

Thomas Pfaff, Ph.D. (Ithaca College, Mathematics)

So, you’d like to add sustainability content or context to your math course. What does that mean? What do you need to do to make that happen? What resources are available? We will focus on addressing these questions as we look to lend clarity to the ill-defined concept of sustainability, and discuss general ideas as well as concrete examples of how to go about incorporating it in grades K-12 mathematics classes. By the end you should have a starting point, a strategy, and useful resources to help you move forward.

Click [here](#) to RSVP (deadline – Friday, September 20, 2019)

Questions? Contact Mary Ann Huntley (huntley@math.cornell.edu)