

Teaching Experience

While at the University of Michigan as a graduate student and at the University of Chicago as a postdoc, I have taken advantage of a variety of opportunities to teach and interact with students.

I began my experience at the University of Michigan as a VIGRE teaching apprentice for upper level undergraduate courses. Specifically, I apprenticed for a problem-solving course (with an emphasis on preparing students for the Putnam exam) and an introductory linear algebra course geared towards engineering majors.

The majority of my experience in Michigan was with teaching introductory calculus courses. I taught several pre-calculus, differential calculus, and integral calculus courses consisting of roughly thirty students each. Typically, the student body consisted of first and second year undergraduates that were fulfilling math requirements. At the University of Michigan, these introductory courses are taught with an emphasis on student collaboration. Usually I would divide the time between lecturing and having students work and present problems.

I also have advising experience from the University of Michigan. For two summers, the mathematics department asked me to work with the undergraduate honors program as an advisor. My primary responsibility was to help incoming honors undergraduate students select appropriate mathematics classes based on their previous exposure and eventual goals. Additionally, this experience gave me my first exposure to the administrative responsibility of fostering a positive relationship between the mathematics department and the wider academic community.

Finally, I had a very rewarding experience related to outreach while at the University of Michigan. Specifically, I was a host for the KCP (King, Chavez, and Parks) program for Detroit middle school students. As part of this program, I gave hands on mathematics presentations to seventh and eighth graders from Detroit. The goal of the presentations was to impart the importance of higher education and the usefulness of mathematics. It was particularly flattering to have a few of these young students tell me that they would like to be a mathematician someday!

My more recent experience has been with teaching at the University of Chicago. As a NSF postdoc, I have taught less in Chicago, but have thoroughly enjoyed the courses I taught. Specifically, I have taught two sections of an introductory course in analysis and linear algebra. This course serves as an introduction to proofs for most students and is taught with a high level of rigour. For instance, the real numbers were defined as an ordered field with the least upper bound property and were constructed as equivalence classes of Cauchy sequences. The students were very talented, making the course a pleasure to teach. In fact, I requested to teach two more sections of the same course this quarter.

I've also interacted with students in some new capacities while at the University of Chicago. This summer I gave a mini-course on open problems from geometry and dynamics for the Chicago REU (research experience for undergraduates). This was a fun experience because it gave me a chance to impart that mathematics is a very alive subject. Last year I served as the mentor for a College Fellow, a second year graduate student learning how to teach. This involved meeting frequently with the fellow to discuss

lecturing styles, office hours, grading, preparing homeworks and exams, and critiquing a few classes that she gave. I will be involved with this program again this quarter.

Finally, I frequently meet with graduate students to discuss research. In particular, I have worked very closely with Ian Biringer, a graduate student at Chicago with whom I've co-authored a research paper. Besides discussing research, we often discuss the more professional aspects of the job such as preparing and giving talks, writing research papers, and applying for postdoc jobs. This aspect of teaching has been very rewarding and I hope to mentor more graduate students.

As a result of my teaching experience, I have worked with a diverse group of students. Despite their differing personal backgrounds, mathematics preparations, and enthusiasm (or lack of) for mathematics, I continue to discover elements of teaching that appear to apply universally. In the classroom, I prefer a casual style, taking my time to explain important concepts and answering questions. My students appreciate my confidence with the material, my comfort in the classroom, and the enjoyable learning environment I maintain. Most importantly, I bring my passion for mathematics and my enthusiasm for teaching to the classroom each day. I genuinely enjoy my time with students and believe it shows.

My most recent course evaluations are available electronically at <http://www.math.uchicago.edu/~schmidt> or by request at schmidt@math.uchicago.edu.