

Teaching Statement

Dan Margalit

I am passionate about teaching and take great pride in it. I've worked with grade schoolers from public and private schools in Atlanta, Chicago, and Providence, high schoolers in Utah, and undergraduate and graduate students at Brown, Chicago, Utah, Tufts, and GaTech.

Awards and evaluations. I received the institute-wide Class of 1940 Course Survey Teaching Effectiveness Award and the Leddy Fellowship at Georgia Tech, the Outstanding Instructorship award at the University of Utah, and the Lawrence and Josephine Graves teaching prize at the University of Chicago. I have received Thank a Teacher certificates almost every year at Georgia Tech. I routinely receive excellent teaching evaluations, typically with over 70% of the students giving me the highest possible overall rating. In my evaluations at Georgia Tech, many students have said that I was the best professor they have had here.

Undergraduate teaching. I am dedicated to excellence and innovation in undergraduate education. I introduced the online homework system WeBWork at both Tufts and Georgia Tech. At the University of Utah, I created the Calculus Carnival, a fun and educational event that is still running annually; I published an article about the carnival in MAA's *Focus* magazine. I have designed and taught undergraduate capstone courses in knot theory and in topology. I have experimented with various modes of active learning—including flipped classrooms, online homework, clickers, and just-in-time teaching. I have given many popular talks for undergraduates on the mathematics of juggling. I have advised over 15 REU students at Georgia Tech, some of whom have written research papers. I co-edited called *Office Hours with a Geometric Group Theorist* that I use for my REU students.

Graduate teaching. I am equally devoted to developing students at the graduate level. I have graduated three Ph.D. students, two of which obtained academic positions at UIC and Michigan, and one of whom solved a well-known conjecture. I have taught several topics courses using one book that I co-authored (*A Primer on Mapping Class Groups*) and another book that I co-translated (*Thurston's Work on Surfaces*). I taught the introductory graduate algebra course at Georgia Tech, as well as topics courses on representation theory, characteristic classes, mapping class groups, and 3-manifolds. I recently taught algebraic topology to a group of exchange students from China. I have overseen numerous reading courses, including courses on braids, 4-manifolds, mapping class groups, complex dynamics, and geometric group theory. The educational centerpiece of my NSF Career award was the Topology Students Workshop, a summer workshop on career development for young topologists that several participants have described as “life changing.” By popular demand, I have continued the series. One byproduct of the workshop is a web page, the Mathematics Students Resource, a popular site for professional development advice (over 3,000 hits).

In my teaching, what I care most about is that my students develop their critical thinking skills, their confidence, and their appreciation for mathematics. I enjoy being a part of this process for my students, from possibly disliking math, to first epiphanies, to mathematical fluency and beyond.