

# Teaching Statement

Taylor McAdam

My own experiences learning math have significantly informed my approach to teaching. In primary school, my math education focused on rote memorization, repetitive computation, and number-crunching. Unsurprisingly, I did not find the subject engaging. The possibility of a career in math or science did not cross my mind until junior year, when an exceptional teacher showed me how I could ask and answer my own mathematical questions without even opening a textbook. Newly awakened to the creativity of math, I decided to attend Harvey Mudd College, a small technical liberal arts college. As a math major at HMC, I was acutely aware of being a young woman in a male-dominated field at a majority-male institution, and I often questioned whether I deserved to be there. At first, I doubted myself constantly. But I was lucky enough to have a supportive community of teachers and mentors. Before long I began to believe in my own potential, and I excelled.

These experiences helped form the two guiding principles of my teaching philosophy: first, *create opportunities for students to actively engage in creative problem solving*, and second, *foster an atmosphere in which all students, regardless of background, are included and empowered to succeed*.

I have a broad range of experiences that I draw on in order to actively engage students. At UT Austin, I participated in the Supplemental Instruction program for four semesters, in which I worked with professional learning specialists and other graduate students to improve pedagogy as a TA. I also obtained the Concentration in Teaching and Mentoring from the UT College of Natural Sciences by passing a series of three semester-long courses on evidence-based teaching, curriculum design, and mentoring. I have taught in both traditional and “flipped” classrooms and worked with students at all levels of experience, from freshmen in introductory calculus courses to advanced undergraduates learning graduate-level material. These experiences have taught me that students learn best when they are encouraged to grapple with challenging concepts and make mistakes. In my classroom, I encourage creativity instead of memorization and aim to provide students with just enough guidance to persist through difficulty and arrive at the right conclusions on their own.

But for students to feel comfortable enough to experiment and make mistakes in the classroom, they must first feel valued, respected, and championed. Sadly, students—and especially those underrepresented in mathematics—often feel the opposite. During my time in graduate school, I have sought out opportunities to learn how to better create a classroom environment in which all students feel welcome. In 2015, I traveled to Glasgow to attend the IMA conference on Barriers and Enablers to Learning Maths, and the next year I participated in the Inclusive Classrooms Leadership Seminar at UT Austin. I also mentored a female math major as part of a program organized by the UT Math Club, and I assisted with the Saturday Morning Math Group, an outreach program for elementary school students in Austin. More recently, I attended ComSciCon-SD, a two-day workshop on communicating math and science to diverse audiences. Too many students are driven away from mathematics by alienating and humiliating experiences in math classes. It is my mission to change this narrative by ensuring that all of my students feel like they belong and can succeed in mathematics.

A former student once wrote of me in a teaching evaluation: “[A]t first, I felt pretty weak in the area of Calculus, but with her encouragement, I embraced all of what this field had to offer. I also appreciate how she allowed us to wrestle with the problems we encountered first, then she gave us helpful hints without mentioning the whole answer.” This is why I love teaching. I want to help discouraged students such as this one discover the unique joy of solving challenging problems on their own.