

TEACHING STATEMENT

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I love mathematics, and during my time as a teaching assistant I have greatly enjoyed the opportunity to foster students' interest in an often intimidating subject. I strive to make the material interesting and understandable to students, in order to help them build confidence and pride in their mathematical abilities. In doing so, I hope to demonstrate that mathematics can be both challenging and fun. Every course offers an opportunity to share with students the beauty and elegance that draws us to study mathematics professionally. I hope to convey to all my students that while the algorithms and applications they learn can be interesting and powerful, at its core mathematics is about thinking and communicating effectively.

While mathematics is often seen as a very difficult subject, I think it is important to set high standards for students and do everything possible to help them succeed. In my experience this tends to build a strong sense of camaraderie within the class, and brings out the best in my students and myself.

I think it is essential to have a friendly interest in my students, their backgrounds, their difficulties with the material, their attitudes toward the subject, and their academic plans. Every student comes to the class with different needs and expectations, and hence each needs to be treated as a unique individual. For this reason, I make it a point to get to know my students on a first-name basis. Building a personal relationship with my students ensures that they know I care about their goals and will work hard to help them succeed. Once they know I am working with them, and not against them, students tend to feel more comfortable taking an active role in lectures; both asking and answering questions.

I also urge students to continue the conversations initiated in class even after they leave – either with me or their peers. To encourage their continued thought and discussion about mathematical ideas, I try to make myself as available as possible outside of the classroom. I have found the extra attention students receive in this context can work wonders. For instance, one student sought me out for extra help midway through the semester. At that time he was struggling with the course material, but after two months of lively and stimulating discussions in my office, he earned a perfect score on the final exam. Another student of mine was having particular difficulty with graphing polar curves. I used a Java applet to simultaneously graph a curve in both Cartesian and polar coordinates, and just seeing these graphs being drawn together solidified the concept for her. Emphasizing individual attention has also afforded me the opportunity to mentor a number of students outside of the classroom environment. Whether offering career or graduate school advice, or lending a helping hand with difficult mate-

rial in other classes, I greatly value these interactions with students that continue even after I am no longer formally their teacher.

When lecturing I try to maintain a relaxed conversational style and relate to each student individually in order to encourage as much student involvement as possible. I often allow the students – with a little encouragement – to guide me through the discovery of a new concept. In many cases, I have found looking at the historical motivation for an idea serves as a catalyst for this type of discussion. Thus, students are not only exposed to new mathematical ideas, but also to many of the interesting stories and personalities which form the history and culture of mathematics. Ultimately, I hope to share with my students just how dynamic and engaging mathematics can be.