

Teaching Statement

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I have had the opportunity to teach many different classes, in various capacities to students from diverse backgrounds. Currently, I am the instructor of calculus classes with two different emphases. Calculus for Physical and Life Sciences is designed for students majoring in the natural sciences and it is a rigorous tour of single variable calculus with an emphasis on examples from the natural sciences. I also teach a calculus course for students in the social sciences. I have full responsibility for all three sections of calculus I teach. However, the instructors of the four sections of Calculus for Physical and Life Sciences coordinate laboratory exercises and midterm exams. In previous years, I have been an instructor with full responsibility for courses in algebra, statistics and business mathematics. Apart from these, in graduate school I was a teaching assistant for all levels of calculus courses. As an instructor, I have taught at public universities and private liberal arts institutions in the US and abroad to audiences of various sizes, from large lecture classes of about 100 students to smaller classes of about 30 students.

I have found that class participation is a key factor in helping students understand concepts and keep up with the material presented during lectures. I have worked hard toward this goal and achieved a high level of student participation in my classes. When I first began teaching I realized that it was difficult to know which students truly understood the material. Grading the first assignments showed me that even though students might say they understand when asked, many times they do not grasp the concepts in depth. When students participate in class by answering my questions or asking their own, I am able to be a more effective teacher and help them quickly understand the material. To achieve this goal, when I prepare my classes I am flexible and allow for additional discussion time.

I also design group assignments on which students work together at the end of each class. I learned about this method from one of my professors. As a teaching assistant for one of his courses I noticed that his class was very active. To find out how he achieved this, I attended several of his classes one semester and discovered that he assigned group work at the end of each class. This semester I adopted his method. I have students work in small groups at the end of each class while I go around visiting the groups and providing help as needed. All students benefit from working together. The influence good students have on their peers is great. Moreover, working together during class helps students know each other and many of them have also started studying together outside class. As an added benefit of group work, students realize much faster where they have difficulties and can come to office hours and get help immediately.

As a teacher of mathematics, I believe my primary responsibility is to convey mathematical ideas and help students think and reason logically. Toward this goal, the appropriate use of technology can be very beneficial. In the past, I have used graphing calculators as well as computer software programs such as Maple to enhance my teaching. This semester I am using Maple and find it very useful in reinforcing many ideas from calculus. I have been coordinating lectures and labs for optimal use. For example, students use Maple to exper-

iment numerically with a concept before it is formally introduced in class. Having gained familiarity with the concept by numerical means helps students understand and appreciate it when we discuss it in class. As a teaching assistant at Texas A&M University, I was responsible for computer labs and recitations, but not lectures. Although the longer Maple projects helped students, too often they felt a disconnect between the mathematics learned in class and the computer laboratories. Being in charge of lectures as well as labs allows me to use them in a way that benefit students most. I always make a point in showing students that technology is only a tool, a useful one, but not a substitute for mathematics.

I strive to improve the quality of my teaching continually. The profession of an educator is one I hold in high regard and thus I am a dedicated teacher. I am fortunate to have a career I enjoy and which means so much to me.