

**Teaching Statement**  
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As long as I can remember, I have always enjoyed mathematics. My favorite part of the subject has always been the sense of accomplishment I feel after understanding and solving a mathematical challenge. However, once I have solved a problem, it is almost more enjoyable to explain the solution techniques and concepts to someone else. I find it very satisfying to help students go through the various stages of understanding until they reach the “I get it!” moment. As a mathematics teacher, I strive to lead my students to this successful state of understanding by dedicating time to prepare for class, utilizing a variety of teaching tools and methods, making myself available to students for extra help, and arranging accommodations for students with special needs.

I believe strongly in being well-prepared for each class. I write detailed lesson plans prior to each class meeting. Being well-prepared helps me better answer students questions in class. I feel that my students appreciate my efforts as evidenced by some of the comments from student evaluation forms: “Jen really knows what she’s doing and it’s evident” and she “answers questions well and promptly”. I feel that my preparedness is a concrete sign to my students that I care about their success in the course.

Another goal of my teaching is to make mathematics enjoyable for all of my students. I taught a course at the University of North Carolina at Chapel Hill (UNC) entitled “Selected Topics in Mathematics”. As instructors of this class, we are in charge of designing our own version of the course. It is a class intended for non-science majors that fulfills the undergraduate math requirement. Because of this status, students often regard it as just a requirement and not as a course that will be useful for their career goals. To try to change this idea, I would often introduce activities in class to emphasize the use of mathematics outside of the science world. For example, the students learned the basics of graph theory, including concepts such as vertices, edges, paths and circuits. As an application of these ideas, they did an activity where I gave them a map of the New York City area. From the physical map, the students had to construct a mathematical graph with the various land masses as vertices and the bridges as edges. We also covered some probability and statistics in the course. As a practical application, I gave the students a set of data on the various major league baseball teams that had made the playoffs. From this data they made a prediction as to who would win the World Series. Based on the statistics, we ended up with an unexpected prediction for the two final teams and the winner, and the sports experts in the class were in total disagreement. The activity catalyzed an interesting discussion about how the statistics pointed to one outcome, but instinct pointed in another direction. In the end, one of the statistically predicted teams did make the finals! Noticing the interest among the students, sports is a common theme that I utilize throughout a course as a practical application of the material they learn. At some point in my career, I would like to design a “Mathematics and Sports” course. I think it would appeal to a wide range of students who would hopefully take the course out of interest and not just to fulfill a math requirement.

Besides introducing different applications, I also utilize a variety of teaching tools to address

different learning styles. I often use worksheets during lectures as a mechanism for the students to immediately apply the concepts they learn. For example in my Calculus I course, we were covering related rates, which is usually a difficult section for students to understand because they often don't know how to tackle the problems. To help them practice, I gave the students a worksheet with several word problems with the answer spaces broken up into sequential steps they should be taking to reach the solution. This gave them a guide that could later be applied to homework and exam questions. I allotted class time to the students to work on these problems, and then asked for volunteers or called on students to share their answers. These activities provide excellent opportunities for student-teacher interactions and can also help reveal what the students still do not understand. In my teaching, I also present many example problems. I typically start with a few simple, straightforward examples that demonstrate the basic concept. I then slowly increase the difficulty level with problems that combine several concepts or require higher critical thinking to set up and solve. I know my students appreciate the amount and thoroughness of my examples because it is one of the most common positive comments made on my student evaluation forms.

I strongly believe in making myself available to students outside the classroom for extra help. As an undergrad (and even as a graduate student) I often felt shy asking a question in class so I would attend my professor's office hours to clear up my confusions. I always appreciated it when the professors were available at their scheduled times and were focused on my questions and also patient with me as I built up my understanding. I try to offer a similar positive out-of-classroom experience for my own students. If they are willing to put forth the effort to come ask questions or send me an email with their problem, I want to put forth just as much effort to assist them. I also offer extra office hours before exams, review sessions for the final and work diligently to answer students' emails promptly throughout the semester. Some nice comments I received from students on this subject were "She has an atmosphere that makes her approachable with questions HUGE plus in a teacher!" and "very helpful during office hours".

Lastly, an important and very personal goal of mine is to make my courses accessible to all students, especially those with physical or learning disabilities. I have some vision impairment which makes it difficult to read normal size print, so as a student I would often need a bigger font for exams and handouts. Often it took a bit of courage on my part to ask for help. At the beginning of teaching a course I make a point to mention if anyone needs any special accommodations to please let me know. I mention my own experience to try to encourage anyone who does need help to come forward. While teaching Calculus I, I had a student who was doing excellent on homework but very poor on exams. He and I talked about this discrepancy and he revealed that he had a diagnosed test anxiety issue. I asked him if he had looked into disability services at our university. He was not aware that test anxiety came under the umbrella of these services. I gave him the website and explained that he could probably arrange to take exams at the disability center in a relaxed environment with unlimited time. A few weeks later, I was happy to hear that he had gone to the disability office and they were helping him work out a plan for testing in future courses.

I find teaching to be a very rewarding experience. I'm very glad that UNC offers graduate students the opportunity to teach a variety of courses on their own. My four semesters of teaching have helped me build confidence and have made me realize that a career in academia is definitely what I want to pursue.