

# Teaching Statement

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I strive to create a classroom environment which makes learning mathematics enjoyable and interactive while being complete and challenging. I believe that a three-fold strategy is required to accomplish such goals. This includes emphasizing lesson preparation and individual student interaction outside the classroom, presentation and content inside the classroom, as well as having an online presence.

My strategy outside the classroom begins with lesson preparation. It is important that I not only understand the course content, but use similar techniques as presented in the text to ensure consistency with student notes from the lectures. My lesson preparation must include sufficient theory, problem examples (beginning with simple problems and then increasing the level of difficulty to that which is expected of students in the course), and real-world applications related to the students' areas of interest. I traditionally keep more office hours than required in order to meet the schedules of students as well as maintain email contact well after office hours. When students visit my office, I ask leading questions and give individual instruction as well as critique. Additionally, I seek to improve my teaching skills by exchanging ideas and methods with other educators and through attendance of seminars and university-sponsored faculty development events.

Inside the classroom my strategy is motivated by student-teacher interaction. I believe that a teacher who exudes enthusiasm in the classroom can generate motivation in his/her students and I work to do just that. The motivated student puts greater personal effort into the course, which yields higher performance. Further, I strive to know the students personally while I continue to maintain a professional distance. This allows me to involve everyone in the class because I have a better understanding of the individual strengths and weaknesses of the students. Inter-student discussion can bolster understanding of the material and therefore I allot time for groupwork, giving students the opportunity to learn from each other. I use technology as an instructional tool to promote understanding of course content by producing visualizations and by allowing students to use software such as Maple or MATLAB to solve assigned problems. I also introduce real-world applications of the course material to enhance student appreciation of the mathematics. For example, in my Calculus I (MA 141) course, I taught my students that Newton's method can be used as a root finder in calculators and then demonstrated this using MATLAB. In my Calculus II for Life Sciences (MA 231) course, students learned to appreciate systems of ordinary differential equations by discussing population dynamics in terms of HIV and cancer research

By having an online presence for each course section, I give the students access to important course information and educational aids. Course webpages include my contact information, syllabi, and important dates (i.e., test dates and university deadlines). Previously taken exams, both from past and current semesters, are posted alongside homework assignments, lecture notes, and

class-related tutorials. This online strategy also extends to course assignments. While teaching at NCSU, I chose for students to complete and submit their homework assignments online using WebAssign. By using WebAssign, I was aided in meeting the course standards set by NCSU because my students were graded on problems with a set level of expected difficulty. When available, I also used online gradebooks which allowed my students to chart their performances in the course which generated a greater sense of personal accountability for their grades.

In short, I take a high level of personal responsibility for the course involvement and material understanding of each student I teach. I work outside the classroom in both lesson preparation and student-teacher interaction to prepare myself and my students for class meetings. During class, I enthusiastically give complete lectures while coupling the content with real-world applications. I also provide online course material and information which help the students do their best. This three-fold strategy helps to create capable and self-motivated students who can succeed in their academic and professional careers.