

Teaching Statement for Chris Lomont

Philosophy:

Two of the biggest obstacles to teaching mathematics well that I encounter are making the subject interesting to students and motivating them to work hard. To increase interest, I add mathematics history where it enlightens or entertains, and tell stories of job experiences showing the benefits of having math skills. For example, I was a programmer for **video games**, and use this experience to illustrate that many topics in undergrad math classes are essential for making games that are familiar to the students. Once they see math as relevant to more than a grade, it is easier to motivate them to study and do well in class.

Also key to teaching well is listening accurately to the student, and understanding his/her questions. Although this sounds obvious, I have been in several classes where the answer to a question was not relevant, leaving the student confused. During undergrad I sold books door to door during the summers to earn money, and learned to listen well in order to answer precisely. Finding what students know before answering questions helps convey material in terms they grasp and enjoy.

Awards:

In April 2002, I received a **departmental teaching award** for the quality of my teaching. It is awarded annually to around 8 out of approximately 200 TAs. From these awardees I was one of three selected to represent the mathematics department for a campus wide teaching award ceremony. From 2000 through 2003 I was selected as a **graduate student peer mentor**, with duties that included helping new TAs develop their teaching skill.

Experience:

My experience teaching mathematics covers several levels of courses under a variety of conditions. During 1995-1996, while working towards a Masters degree at Purdue in Fort Wayne, I taught introductory algebra. All exams, quizzes, and the grading system were created by me.

Then I taught as a PhD student at Purdue University in West Lafayette from 1996 through 2002. The classes included introductory algebra for liberal arts majors, a one semester fast paced course in **algebra and trigonometry** for science majors, as well as a slower two semester course in algebra and trigonometry for less prepared students. In these courses the department had standard tests across all sections, and most of my classes did better than the campus wide averages.

I also taught several types of calculus, including **calculus for Business** majors, **calculus for Technology and Agriculture** majors, and standard **engineering calculus**. In these classes I made the quizzes and exams, but the final was still a campus wide common exam. In Spring 2002 I was the only TA selected to teach a third semester engineering calculus section along with three sections taught by professors. The professors and I wrote common exams, and agreed on a key to make the grading uniform.

In 1999, I was selected to teach **Mathematical Economics**, a class composed of graduate students in agriculture. This class was probably my most enjoyable since the students worked diligently, were consistently prepared, and the material was new to me. I developed all materials and the grading system for this class. Also in 1999, I taught **advanced C++** to a group of professional programmers at PHD Inc, a company where I consulted from 1995 through 2000. It was a good experience since I had to think about teaching subjects besides math, and again I created all course materials. On a more advanced level, after graduation, I taught a seminar on **Quantum Computing** to a group of faculty and some grad students that lasted a semester. Again I had to prepare all materials, and many attendees stated the lectures were very well put together.

In 1996-1997, my student evaluations rated me 4.0 out of 5.0. I have progressed in my style and skill consistently, and for my last semester teaching in 2002 I received **4.8 out of 5.0 rating** by the students. My scores were consistently in the 4.6 to 4.8 range over the last few years.

Goals:

Teaching quality improves with practice and study, like, for example, playing tennis improves with practice. A sure way to improve ones tennis game is to study to learn new skills, and then practice to make the new skills automatic. Similarly, by paying attention to criticism and thinking about how my presentation appears, along with teaching in a variety of situations, I have been able to tune my teaching style to be fluid and effective.