Sherwin Doroudi — Teaching Statement

In the summer of 2015 I had the fortunate opportunity to teach a semester-long undergraduate course at CMU, 70-207: “Probability & Statistics for Business Applications.” I taught twelve students who came from diverse academic and personal backgrounds, most of whom were being formally exposed to probability and statistics for the first time.

In order to make the material both accessible and engaging, I strove to make the environment as interactive as possible. I encouraged students to volunteer relevant examples from their other courses and their day to day lives, and we would frequently have lively discussions about the merits of one statistical approach over another. I framed my course as an exploration of the topic and worked hard to create an atmosphere where students would feel welcome to share their thoughts—or even come up to the board to work out the solution to a problem—without a fear of “being wrong.” I feel that this exploratory approach allowed the students to better hone their critical thinking skills, rather than simply developing a surface level understanding of the concepts that were taught. Most classes would go by with every student contributing to the discussion at least twice. I understand that this exact approach may not be applicable to classes with several dozen or more students, but I am confident that I will succeed in finding an approach that is similar in spirit and suitable for large class settings.

The teaching evaluation for 70-207 received eleven responses, with an instructor review of 4.64/5.00 and an overall course review of 4.45/5.00. Written responses included the following:

“The professor was great. He was helpful throughout the course and explained the material very well in class and in office hours. He gave office hours and was always available during them. I felt like I was in a really supportive environment where I was able to learn and understand very well. I’m glad I took the course with this professor.”

“Great teacher, office hours are helpful and he is one of the best teachers I have had. He understands how to clearly explain exactly what the students are looking for and knows how to explain the same material in different ways for particular students. Unlike 95 percent of the teachers I have had throughout my courses, he knows how to teach properly.”

“He shows a true interest in the students’ learning and understanding and goes out of his way to help students.”

In addition to teaching 70-207 as a standalone instructor, I also served as a teaching assistant for seven other courses, including multiple undergraduate, MBA, and PhD level courses of various sizes (see my C.V.). The key lesson I learned from these diverse teaching experiences is that I need to change my teaching style to best capture the interest of my students. Undergraduate and graduate students have very different goals in taking a course, and teaching each group effectively requires more than mastery of the subject area on my part; it is crucial that I convey the material in a way that best meets the goals of the particular audience I am teaching.

Courses I could teach right away:

- Probability & Statistics (U, G)*
- Regression Analysis (U)
- Optimization (U)
- Stochastic Processes (U, G)
- Queueing Theory (G)
- Stochastic Dynamic Programming (G)

Courses I could teach after a semester of preparation:

- Mathematical Modeling (U, G)
- Simulation (U, G)
- Economics for Engineering (U)
- Supply Chain & Logistics (U)
- Manufacturing & Service Systems (U, G)
- Game Theory (U, G)

*U = Undergraduate level, G = Graduate level