Satyaki Chakravarty
Teaching Statement

I am passionate about teaching because it is gratifying to see students succeed and not repeat my mistakes. I define my approach to teaching in two parts: one, explaining the materials to the students, such as the background, definitions, and methods; and two, providing the students with guidelines on how to avoid the mistakes I encountered during my own learning process. While the bulk of a course will always be focused on explaining the concepts, certain courses involving greater depth needs additional understanding and practice that one course may not provide, and hence in such cases the skills to self-teach are required. Students can have a smoother sail if they have a map of mistakes to avoid. On this backdrop, I develop the rest of my teaching statement.

I have always struggled with the fundamentals of statistics, and have taken my own time to connect the mechanics of solving a problem to its conceptual understanding. To provide an example: I knew the calculation method of expected value, but its meaning in a simple sentence, and its relation to a distribution function was unclear to me. Therefore, I could not connect the expected value taught to me in my undergraduate statistics course to the expected utility function from the microeconomic theory course. They were two separate mechanical tasks to me. Another example of my struggle was the understanding of a normal distribution. I knew how to read a normal distribution table and find the answer, but I did not know that there was a function behind the probabilities, nor could I wrap my head around the fact that most sampling distributions converged to a normal distribution as the number of observations increased. Lastly, the use of calculators and functions in Excel aggravated the problem by allowing me to bypass the calculations that go in the background.

To make sure that the students I am responsible for do not encounter such mistakes, I always provide multiple examples in simple sentences and images, and connect each advanced concept back to its roots, the first unit of statistics. For example, to tackle the concept of a normal distribution, I draw a table with unique values of a random variable and their probabilities. I extend the frequencies by asking the students to imagine that more observations are collected or surveyed. Eventually, we obtain a distribution which looks like a normal distribution. Next, I urge my students to use pen and paper to solve any problem, as a first attempt, and verify their answers with calculators, if they really want to use them. My focus always stays on explaining and bridging the mechanics of solving a problem to the concepts a problem is testing.

I was privileged to conduct a few face-to-face courses of microeconomics and statistics to undergraduate students at UNCG. Students from a variety of exposure to mathematics usually take our courses. This challenge to explain the concepts to a varied mix of students allowed me to test and improve my teaching skills, and the feedback from the students solidified my belief that I could in future be able to pass the baton of knowledge to the next generation. My students have been generous to provide heartwarming feedback on my skills and can be accessed from the footnote.[1]

[1] https://satyaki4.github.io/files/summary_of_evaluations.pdf