

## Teaching Statement

In recent years I have been fortunate enough to have had abundant opportunities to teach various students ranging from non-Economics majors to Economics doctoral students (please refer to my [curriculum vitae](#) for detailed information). Such experiences have led me to adopt a simple but fundamental principle towards teaching: “to anticipate my students’ academic needs.” I would like to share two stories illustrating how I applied this principle in my passed pedagogy.

Prior to joining Duke University as a doctoral student, I worked for three years as a lecturer in Economics at the Korea Military Academy (KMA) to fulfill my mandatory military service. In this position, I was privileged to teach cadets—future military officers. In addition to a military degree, cadets are required to pursue a second degree in an academic discipline. Thus, there is a squad of Economics-major cadets in each cohort. As a rookie, I was assigned to teach an ‘Industrial Organization’ course to junior Economics-major cadets. Although these students pursued Economics as their academic major, it was not always easy to convince them why they needed to know specific IO concepts. Rather, they showed more interest in the game theory part of the IO class because it was more closely related to what they were going to face as military officers. Back then, there was no game theory course in the KMA’s curriculum. Hence, I suggested to senior faculty members that we should open a course focusing on game theory with military applications. However, the curriculum of the academy can only be changed once every several years, so we were not able to immediately add the course. Nevertheless, the senior faculty agreed that game theory fits better with the cadets’ needs, so they allowed me to mainly focus on that material in the IO course in the following two years. After I was discharged from the army, the game theory course was eventually added to the curriculum. In addition, based on my teaching materials, they also added another general elective game theory course for cadets whose major was not Economics.

After joining Duke, I began delving into conducting research in economic theory. This often

required me to perform complex algebraic manipulations and solve sophisticated differential equations. It took inordinately long to perform these tasks by hand, so I learned on my own how to use Mathematica—the computer software that can help in algebraic calculations. In my fifth year, as I conversed with some early-year Ph.D. students who were interested in economic theory, I observed that they were struggling with doing complicated algebra by hand. I realized that if I shared my skills in Mathematica, then these students would save precious time in learning new skills and have a head start in research. So, I proposed a summer Mathematica course for Economics Ph.D. students to the department, and they let me teach the course. I covered this course in the summers of 2021 and 2022, and it was very successful. It was popular not only with Economics Ph.D. students but also with some graduate students in Quantitative Marketing and Finance. These students also realized that it would be useful to have this skill in their research arsenal.

The above two stories exemplify the importance of anticipating students' academic needs. I believe that if instructors pursue this principle in preparing their courses, the necessary teaching content naturally follows. My experience at the KMA illustrates this point. I began with fairly low teaching evaluation scores, but my scores increased exponentially over time and became quite strong after three years. Indeed, I am confident that I will continue to progress in mastering pedagogical methods and techniques.

In addition, applying the principle of anticipating students' needs benefits not only the students themselves but also the department. I strongly believe that the success of a department depends on how much its alumni contribute to society. Hence, as an instructor, the starting point to achieving this goal is to actively and thoroughly consider the students' needs. My past experience demonstrates how passionate I am about teaching, and I firmly believe that my enthusiasm in this arena will be an invaluable addition to your department.