Teaching Statement

Siyuan Lyu (Stony Brook University)

My teaching philosophy centers on fostering deep understanding and practical application rather than mechanical computation, with the ultimate goal of inspiring students to discover the fascination and relevance of economics. In my teaching of Intermediate Microeconomic Theory over two semesters, I have focused on helping students not only grasp abstract economic and mathematical concepts but also apply them to real-life scenarios. Microeconomics is fundamentally about individual decision-making, and I aim to bridge the gap between theoretical learning and practical application by designing engaging, relatable examples that resonate with students' experiences.

My classes are primarily lecture-based, but I work to ensure that my students see the relevance of economics beyond problem sets. For instance, rather than using the traditional example of a consumer choosing between apples and bananas, I've created similar models but with a modern twist by incorporating figures like Harry Potter or Taylor Swift. The choices might involve things that students are genuinely interested in, such as concert tickets or digital games, making the concept of utility maximization much more engaging and directly relevant to their daily lives. This approach helps students realize that economics provides practical insights into everyday decision-making and isn't just about solving mathematical problems.

While lectures form the backbone of my teaching, I am conscious of the need to keep students actively engaged. To break the monotony, I incorporate various in-class activities, such as having students draw indifference curves for their preferred goods (e.g., Pepsi and Coke), and then anonymously sharing and discussing the results. I have also used video clips, such as from the movie *A Beautiful Mind*, to critique and analyze economic concepts in popular culture. These interactive and multimedia approaches create a more dynamic learning environment and help maintain student interest.

One of my favorite topics to teach is Game Theory, which naturally lends itself to interactive learning. To make the subject come alive, I incorporate a variety of hands-on activities, such as volunteer's dilemma games. In one instance, I designed a game where students could collectively earn a bonus point on their final grades if 60% of the class participated in an event. After discussing the theory and solving the mixed-strategy equilibrium in a two-player setting, I encouraged students to devise their own strategies. These real-time applications of concepts give students a chance to see economic theories in action and gain a deeper understanding of the strategic nature of decision-making.

I have also had the opportunity to teach an online course on Environment and Natural Resources Economics, which lends itself naturally to real-world applications. In this class, I emphasize student interaction by participating weekly forum discussions. These discussions are centered on open-ended questions such as "What is the recycling policy in your neighborhood?"

or “Do you recycle water bottles after purchasing them from the supermarket?” This format allows students to apply the course material to their own experiences and engage in meaningful discussions with their peers, creating a collaborative virtual learning environment.

In both my in-person and online classes, I made consistent effort to promote inclusivity and balance. For example, when teaching cooperative game theory, I adapted classical examples such as the ‘Battle of the Sexes’ to avoid reinforcing stereotypes. Instead of presenting the scenario as a husband preferring sports and a wife preferring performances, I framed it as a pair of friends choosing between different courses. This change ensures that my examples are gender-neutral and relatable to all students, reflecting my commitment to fostering an inclusive classroom environment.

Through these strategies, I aim to make economics accessible, engaging, and interesting to all students, regardless of their background or level of interest. I am committed to helping my students not only understand economic theory but also apply it in their everyday lives, encouraging them to become thoughtful, strategic decision-makers both in and outside of the classroom. In the future, I look forward to teaching a variety of courses, including Introduction to Economics, Microeconomic and Macroeconomic Theory, as well as field courses such as Game Theory and the Economics of Environment and Natural Resources at the undergraduate level. I am particularly interested in developing new offerings in Data Analysis for Economics, as well as innovation economics seminars and workshops, to utilize my research interests to support various interests of the students.