

Golden Dozen Award Personal Statement

Shizhu Liu

I have been a Clinical Assistant Professor of Mathematics at NYU Courant since September 2018, instructing three courses to at least 220 students in total each semester, subjects ranging from CAS Core Quantitative Reasoning, Calculus Sequence to Linear Algebra. I also guide students on the Dean's Undergraduate Research Fund (DURF), organize about 30 NYU undergraduate teams (totaling nearly 100 students) to participate in the Mathematical/Interdisciplinary Contest in Modeling (MCM/ICM) every spring, and advise the Student Society for Industrial and Applied Mathematics (SIAM @ NYU).

The central goal of my teaching and mentoring is to fully support NYU students in their successful scholarly and professional endeavors.

Teaching

I add unique skills elements that benefit students with different motivations. In Core-Quantitative Reasoning, I use a series of Excel-based statistical graphs and narrative writing assignments useful in careers of media or sports management majors. In Linear Algebra class, I invite students to talk on academic papers to become versed in graduate school style seminars. In Fall 2020 when the pandemic hit, I added individual video projects and final group projects to Calculus II to keep students fully motivated during remote learning. Since Fall 2022, I have taught asynchronous Calculus I using flexible schedules that accommodate 140+ students and address different learning habits. To overcome the disadvantages of asynchronous learning, my teaching assistants and I increased our office hours to maintain excellent communication and timely feedback, fully engage students in the online class forum and share study tips.

My students achieve positive educational experiences. Indeed, many note their projects on resumes and application essays. My course evaluations are excellent, and I've been twice nominated for recognition as an esteemed faculty member at the Annual Student-Faculty Banquet. The former Provost, Katherine Fleming, noted my work during the transition to remote classes as "*amazing*", adding, "*This is such a difficult and strange time, and it is clear that our students are greatly reliant on faculty like you to make them feel some kind of normalcy.*"

Advising

Every Fall, I host the Undergraduate Math Modeling Workshop where I and some speakers present seminars on mathematics modeling. Even those with an entry-level college math background can practice problem-solving and gain new computational skills. Each Spring, I organize around 30 teams to participate in the MCM/ICM contest where I have seen clear growth, strong interdisciplinary collaboration, and more high-ranking reward winners. NYU has been recognized in the contest press release and scholarships awarded to students and the school. These workshops, projects, and competitions

significantly impact students' overall learning, especially since many plan to contribute to industry or pursue a professional Master's degree after graduation.

Since Fall 2022, I have been faculty advisor for SIAM @ NYU, helping club leaders modularize events and gaining strong support from school officers and faculty. SIAM membership has grown and now hosts numerous influential campus events on career choice and graduate applications.

I will continue to strive to be an exceptional instructor and advisor. Thank you for considering me for the Golden Dozen Award.