TEACHING STATEMENT

JIANQING JIA

I have always aspired to become a teacher, a passion that led me to pursue my undergraduate studies at Hebei Normal University, celebrated for its century-long dedication to cultivating educators. While majoring in Mathematics, I had the privilege of taking education- and psychology-related courses. These courses, coupled with my experience as a trainee teacher, shaped my early understanding of effective teaching strategies and student learning processes. After getting my BS degree, I further honed these skills as a full time college counselor, enhancing both my pedagogical techniques and mentorship abilities. My instructional abilities were further refined at Syracuse University, where I teach calculus and statistics classes as instructor of record. These enriching experiences have not only enhanced my teaching skills but also solidified my lifelong dedication to education.

'Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.' This Chinese proverb best captures the essence of my teaching philosophy: fostering students' independent and critical thinking skills, thereby enabling them to achieve lifelong success, rather than just imparting knowledge and providing answers. A fundamental aspect of this philosophy is my commitment to creating a safe and inclusive learning environment, where students not only feel valued and encouraged to actively participate in their educational journey but also feel free to make mistakes and actively learn from them. My teaching goals are centered around assisting students in discovering their learning potential, empowering them to seek knowledge, critically evaluate information and independently solve problems.

Mathematics is unique as a subject, in that it comprises both highly abstract theory and very concrete applications to practical problems. Teaching mathematics, no matter at what level, has to reflect this duality: in an introductory calculus course, for instance, students need to master derivatives and integrals, but also need to learn how to apply calculus to real-world problems; in a higher-level course, students need to become familiar with a new area and its results, but also need to understand what those results mean and how to think about them concretely. In my teaching, I always try to arrange the subject matter in such a way that my listeners can understand and appreciate both aspects. I show many examples to illustrate the meaning of a new concept, to justify why a certain theorem must be true, or to suggest a different point of view on a result. In the classroom, I follow a student-centered learning approach, emphasizing learning through inquiry, discussion, practice, and collaboration to enhance students' subject-specific knowledge as well as non-subject specific skills. My teaching attributes can be described in three key aspects: **Engagement**, **Personalize**, and **Practice**.

Engagement: When introducing new math content, I aim to prevent passive learning and maintain student interest. Instead of immediately presenting definitions and theorems, I start by having students review the concepts they've learned and pose warm-up questions that engage their interest and encourage active thinking. This approach guides students in understanding the new content and how it connects to what they've previously learned. In

class, I reinforce active listening by utilizing technology and blended learning methods to present the topics. My focus is on active learning, peer instruction, case-based or problem-based learning, creating a dynamic learning environment.

Personalize: I recognize that, while mathematics is often taught to a fairly large number of students at once, learning or understanding something is an individual act. My approach is to foster a deep understanding of mathematical concepts, tailored to each group of students' unique learning style and pace. I aim to demystify mathematics, making it accessible and intriguing for everyone. By recognizing and celebrating individual learning differences, I adapt my teaching methods to meet students where they are, ensuring they not only comprehend but can also adeptly apply these concepts in their respective fields. My goal is to assist students in developing mathematical thinking, enabling them to confidently and skillfully approach questions in their subject context. This personalized approach not only enriches the student's learning experience but also cultivates a sense of ownership and confidence in their mathematical abilities.

Practice: I promote learning through problem-solving and practice, as exercises not only help students identify their skill gaps but also enhance their understanding of analytical tools and concepts covered in class. In my classroom, I solve examples step-by-step on the board, encouraging students to actively ask questions and contribute ideas. This approach aids in enhancing students' critical thinking and makes the classroom experience more dynamic and effective. Additionally, I encourage students to go beyond the assigned homework by offering extra bonus exercise questions. It's important to recognize that students may struggle and feel discouraged when tackling exercises. My goal is to help them become comfortable with addressing unfamiliar problems and learning from mistakes in a safe, supportive classroom environment. This approach not only deepens their learning but also builds resilience and confidence.

As a teacher with a background as both a first-generation college and international student, I deeply value diversity, which informs my commitment to fostering an inclusive and equitable learning environment. Understanding the unique challenges and opportunities diverse backgrounds present, I strive to recognize and address the specific needs and perspectives of my students. Ensuring accessibility to educational resources is a priority. I utilize library-borrowable textbooks, provide comprehensive lecture notes, offer ample supporting materials, and share free online resources, ensuring that all students have the tools needed to succeed, regardless of their circumstances. In my teaching, I consciously use straightforward and neutral language, catering to students from various cultures and countries. This approach creates an environment where every student feels valued, respected, and empowered to reach their full potential. By offering timely and constructive feedback on assignments and exams, I help students recognize their achievements and identify areas for improvement. Equally important is my practice of regularly seeking feedback from students to better understand their needs and situations, allowing me to adjust my teaching methods promptly and cater to the diverse needs of my students.

In conclusion, I recognize the reciprocal nature of education: while my students learn from me, they concurrently shape me into a better educator. This ongoing journey continuously enriches my evolving teaching philosophy. Beyond merely imparting knowledge, my role extends to mentoring students to become lifelong learners, equipping them with the skills and confidence necessary to navigate our complex world with curiosity, enthusiasm, and resilience.