# TEACHING STATEMENT

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**The Answer:** In the classic quiz show *Jeopardy!*, contestants must supply the trivia question corresponding to the answer they are given, with a cash reward for each correct question and answer pair. As a teacher, it is tempting to fall into this system of giving students the answers and hoping they can correctly apply their knowledge when it is needed. But what is an answer without a question? The show's scoring scheme suggests that knowledge is worth something only when questions and answers appear together, and this is a helpful perspective in the classroom. My goal as a teacher is to give my students the information they need, then walk alongside them as they learn how to ask, appreciate, and answer the questions that arise in their lives.

**The Question:** In practice, how are these goals of student engagement and participation achievable? The first principle of translating these ideas into results is clear, careful planning and communication. On this foundation, I encourage active participation in the learning process, both in and out of the classroom. By appreciating the unique learning styles and abilities of each person, I can teach courses that enable my students to grow mathematically and personally.

**Universal Design:** When designing courses, I strive to make each element engaging and worthwhile while building a cohesive whole that is organized, approachable, and challenging for each student. I start each semester by clearly communicating good strategies for success in my class. Providing a course calendar showing a consistent schedule consistent schedule allows students to quickly form a routine and spot potential scheduling conflicts in advance.

Good organization is also key in promoting student engagement: when the whole class can easily see what is expected of them and what they can do to succeed, they are more likely to take ownership of learning the material. Good class structure also gives me more time during the semester to invest in my students and more room to be flexible. Whether the issue is a homework extension or a topic I need to spend more time on, careful planning gives me the freedom to make minor changes that will help my students succeed.

**Active Instruction:** While lecturing, I model mathematical flexibility and creativity by presenting a range of examples and contexts for new ideas. I encourage my students to interact with the material by asking questions and offering suggestions on what we might do next. By regularly asking, "how can you use this?" rather than just saying "this is useful," I open the door to imagination in problem solving and give opportunities for each student to take ownership of their active role in the class. In an online environment, this classroom interaction is much less natural and difficult to replicate. In these classes, I encourage my students to instead interact via discussion boards, recorded and live videos, and other virtual means in order to preserve the idea of learning in community. By drawing from active, inquiry-oriented learning models and providing opportunities for each student to interact with the material in the way they find most natural, I aim to create a classroom environment where everyone is valued, enabled, and prepared to learn well.

**Mentorship:** While in-class practices and large-scale interactions are foundational to effective teaching, individual encouragement and feedback plays an important role as well. In small group settings, I focus on generating good discussions around concepts. These conversations help my students understand new material from multiple perspectives, which solidifies their understanding of both mathematical techniques and motivation. Practically, this often looks like asking questions. When a student asks for feedback, I find that a simple "Yes" or "No" is often less instructive than asking "Do you think it's right? Why?" or "Have you discussed your strategy with a neighbor?" The practice of explaining their work out loud frequently leads to the student answering their own question, as well as gaining confidence, recognizing patterns, making connections with other parts of the course, and developing good mathematical communication skills.

**Experience:** My approach to teaching is student-centered and holistic, and has earned me several honors. In graduate school, the University of Kentucky math department recognized my teaching with its annual Award for Outstanding Teaching Assistants, as well as the (atypical) opportunities to serve as instructor of record (3 classes), Lead TA, and review session leader for the graduate Abstract Algebra Prelim Exam, among other leadership and mentorship roles.

As a postdoc at the Colorado School of Mines, I continued to refine my skills and strategies by teaching several upper division classes, participating regularly in the department's teaching seminar, completing summer courses in Facilitating Online Learning and Accessibility in Education, and participating in the Mathematical Association of America's Project NExT professional development program.

Throughout my time at Georgia Tech, I have continued to build on this foundation through new courses and continued education. I have worked closely with the Center for Teaching and Learning and have been selected to participate in several of their programs, including the Class of 1969 Teaching Fellows program and a 2-year Teaching with Technology partnership. I have continued to grow through the new challenges of coordinating both Math 1551 and 3012, as well as mentoring Visiting Assistant Professors and Graduate Students in their teaching.

Being a supportive role model as a mathematician and as a human is the most valuable thing I can do. Whether I am teaching classes, helping my graders learn to craft efficient, meaningful feedback, giving feedback on classroom practices and assessment drafts, or tutoring students in office hours, I can create an environment for growth by beginning with the belief that every person present has brought value to the endeavor. My purpose is to educate students as people, and the best thing they could tell me is that they "[have] grown massively as a mathematician here- for a multitude of reasons, but mostly due to **you** and your passion for math, and how much you care about your students." By making math personal, applicable, and flexible I can equip my students to formulate and work through the important questions in their lives.