Teaching Statement

Throughout my experiences teaching mathematics in classrooms, small groups, and one-on-one tutoring settings, I have developed a teaching philosophy grounded in clarity, structure, and curiosity. Teaching has shown me that learning mathematics is not about memorizing procedures, but about helping students make sense of ideas, build confidence in their reasoning, and see mathematics as something they can understand rather than something to fear.

A core principle of my teaching is organization and intentional flow., I design lessons to move purposefully from motivation, to exploration, and finally to formalization. Rather than beginning with formulas or definitions, I start with questions that highlight why a concept is needed and what problem it addresses. I want students to understand that mathematics was discovered through curiosity and challenge, and that the ideas they were learning were once questions that mathematicians struggled with themselves. This approach helps students see mathematics as a coherent story instead of a collection of disconnected techniques.

This was demonstrated when I taught a lesson on the product rule. I began with the motivation about what happens when we have two functions, f and g multiplied together, and want to find its derivative. I began on providing an example of letting the functions $f(x) = x^2$ and $g(x) = x^3$, have students guess how to find the product of the derivatives, of which they assume $(fg)' = f'g'$, and letting them test it out. This would yield them with $(2x)(3x^2) = 6x^3$. Then, I would have students find the product first, $fg = x^5$ and then differentiating that to get $5x^4$. And I would tell them that this was a question first raised by Leibnitz, one of the inventors of calculus, initially thought. I would then explain the product rule in its true form $(fg)' = f'g + fg'$ was based on the limit definition of the derivative and then move on to provide more examples before having students work on problems on their own.

Clear communication is essential to this process. In the example above, by first providing a counter example, students would then remember that and not make the mistake. I am deliberate in how new material is introduced and how it connects to what students already know. When lessons are well-structured and concepts are introduced with intention, students are more likely to retain information and apply their understanding to new situations. My goal is always to help students understand not on how a method works, but why it works.

I also place strong emphasis on differentiated learning, particularly in courses such as precalculus where students enter with a wide variety of backgrounds and goals. While ensuring that all students develop and solid foundation, I provide enrichment opportuneness for advanced learners by offering glimpses into proof-based reasoning. For example, I may guide students through informal justifications of results they have previously accepted without explanation, allowing them to deepen their understanding and experience the process of verifying mathematical truth through logical reasoning.

I strive to create a classroom environment where curiosity is encouraged, questions are valued, and mistakes are treated as part of the learning process. When students ask, "when am I ever going t use this?" I see it as an opportunity to connect mathematical ideas to real-world applications, future coursework, and broader ways of thinking. By grounding abstract concepts in meaningful motivation, students are more likely to stay engaged and develop confidence in their abilities.

Ultimately, my goal as a mathematics educator is to empower students to see themselves as capable mathematical thinkers. Whether students are preparing for transfer-level coursework, professional programs, or simply building quantitative confidence, I am to provide a structured, supportive, and intellectually honest learning experience that emphasizes understanding, reasoning, and curiosity over memorization.