Statement of Teaching Philosophy - Kevin Childers

As a graduate student I have taught a considerable amount and variety of mathematics courses. I have lectured classes of sizes ranging from 7 students to over 200 students, on the topics of college algebra, trigonometry, business algebra, business calculus, calculus 1, calculus 2, calculus 3, and undergraduate real analysis. I have also taught online courses, led reading courses with advanced undergraduates, and organized seminars for advanced undergraduates and beginning graduate students.

The first principle of my teaching philosophy is to help students overcome the fear of failure. As Henry Ford said, “Failure is simply the opportunity to begin again, this time more intelligently.” I view the fear of failure as the major obstacle that successful students are willing to overcome. I always encourage my students to try, to be confident in themselves, and to learn from their mistakes. I strive to be respectful in class and approachable outside of class to facilitate an environment where the most growth is possible for students. I create ample opportunities for students to obtain constructive feedback from me, a grader or teaching assistant, and/or their peers to help students recognize and learn from their mistakes.

Example: A student personally asks about an exercise and I see that they are incorrectly using mathematical induction. I have him/her work out a simpler proof by induction, then I ask questions and provide encouragement to help him/her discover and correct the logical flaws of his/her proof by him/her-self.

A responsibility of mathematics instructors is to help students develop basic logic and problem solving skills. In class, I focus on using intuitive examples for motivation, then logically develop the big ideas of a theory. When appropriate and helpful, this development may include logical and complete proofs. Once intuition for the big ideas is developed, it is applied to understand more complicated examples and solve more difficult problems. The process continues outside the classroom as homework assignments vary from working out simple, intuitive examples by hand to proving theorems or solving difficult exercises which challenge students to make logical connections with big ideas.

Example: First find areas under select curves using geometry and other elementary methods, then introduce the Fundamental Theorem of Calculus (FTC) and check FTC on these intuitive examples. Then, provide a (partial) proof of FTC and apply FTC to new examples which can’t be solved using elementary methods.

I find that helping students realize that mathematics is interesting and fun, and above all that they can succeed in mathematics, is among the most rewarding parts of an academic career. Just as great professors have had profound impacts on my love for mathematics and my choice to pursue a similar career, I strive to be the kind of teacher that inspires students to appreciate and continue to study mathematics.