

Teaching Statement

AJ Bu

Instructors should aim beyond merely teaching the course material and bestow upon their students a true education, which is both important—as it is a keystone to our lives, success, and society—and empowering. Moreover, a true education helps students cultivate their minds and enables them to be productive members of society. I strive to best support student growth by fostering a positive learning environment that is both supportive and flexible, guiding students in developing problem-solving skills and self-efficacy, and promoting a deep understanding of the material.

I believe it is essential for effective teachers to care about their students and want them to succeed. In the end, students want to know that you care; it is an incredible motivational force for students that should never be overlooked. I therefore work hard to be approachable and have a positive relationship with my students, so that I can provide the support that they need to succeed (see appendix F of my teaching portfolio). I foster this relationship from the first day by asking students to answer a few welcome questions (see appendix A of my teaching portfolio) and providing a syllabus that outlines clear expectations (see appendix B of my teaching portfolio). The welcome questions ask about each student’s background (e.g. if they have taken the course before, when and where they took their last math course, etc.) as well as important personal information (e.g. the name they go by, pronouns, or any information they want me to know).

Overall, my primary focus is always my students. Therefore, I encourage open communication and make decisions based off their best interests. I value transparency with students so they always know what is required of them and do not unfairly face adverse consequences due to confusion regarding expectations. For example, I view my syllabus as a contract with my students that clearly establishes what students can expect in the course as well as what I expect of my students (see appendix B of my teaching portfolio). Being transparent also includes setting clear and consistent standards and articulating the rationale behind grading. During the course, I remind students of these standards through comments detailing why they lost points on assessments. Students might view grading as “unfair” if they do not understand why they received a certain grade. I avoid this conflict so that students not only know that they *can* succeed in my class—the system is not against them—but also *how* to succeed.

Since people often find themselves overwhelmed by difficult problems, I find it incumbent on me to help students improve self-efficacy and cultivate relevant vital life skills, such as problem solving and analytical thinking. The nature of mathematics—which turns simple ideas into complex ones and complex concepts into simple ones—provides the means to hone the necessary skills to successfully confront problems of any kind. I give my students the opportunity to develop this skill set through worksheets, which begin with straight-forward problems to help students gain confidence with the new material. If a student struggles, instead of telling them the solution, I use guiding questions to break down the problem. The worksheets then challenge students with complex problems that involve paying attention to details, identifying important information, following complex reasoning, and manipulating information. This process of grappling with understanding to find a solution can be incredibly empowering, as students can see their progress and gain confidence to approach a problem with no obvious answer. Moreover, I encourage my students to cultivate their communication skills by requiring them to explain their work with clear and logical reasoning. They also learn to articulate their work clearly and concisely through group work and peer teaching, which further promote self-efficacy.

Assessments are crucial for determining what is most beneficial for each student. In addition

to completing formal assessments, I expect students to be engaged in lectures, asking and answering questions, and I emphasize that they should not be embarrassed about making mistakes (see appendix B of my teaching portfolio). I use these informal formative assessments, along with ungraded worksheets, to constantly monitor student understanding in a low stakes environment and gain insight on my own teaching. By viewing student learning in correlation with various teaching styles and classroom dynamics, I can make informed decisions on how to run my course and improve as a teacher for each particular group of students. In doing so, I practice both humility and flexibility, as I need to recognize that my teaching style will not always be the best for every student and need to be willing to adjust my course when necessary. For example, when I noticed students struggling to answer questions on the washer and cylindrical shell methods for finding volume, I promptly remedied this confusion by explaining it differently with a demonstration using sheets of paper and a water bottle.

I have noticed that some students are susceptible to forgetting detailed information and find it more beneficial for them to have deeper understanding of concepts rather than simply memorize formulas. For example, when teaching arc length and surface area in Calculus II, I explain conceptually how to derive the formulas, ensuring that students understand *why* they hold. Through understanding concepts and developing mathematical skills, they can understand formulas, thereby remembering them better. Moreover, if they forget the formulas, students can even rederive them themselves. Understanding allows students to apply learned skills and information to other aspects of their lives, giving learning its significance.

I believe that the instructor should meet their students halfway. Since I expect students to work hard in my course, it is only fair that I am willing to do the same. I therefore make myself accessible to my student by responding to emails promptly and being available for students who need extra help. While I encourage students to attend my set office hours, I also set up appointments for students who cannot make it and hold additional review sessions outside of class if students are interested. I hope to instill passion within my students through my passions for teaching and mathematics, as passion can be self-reinforcing. Enthusiastic teachers often inspire their students and therefore find that their students are more eager to learn. In turn, eager students motivate their instructors to try even harder.

Ultimately, as a teacher, I hope to have a positive influence on my students lives, helping them to succeed and overcome any barriers that may prevent them from doing so. I aspire to be a mentor to my students and assist them on their journey of personal growth by helping them develop practical skills and increase self-efficacy. I work to be approachable and have a positive relationship with my students. In doing so, I hope to promote emotional wellbeing, which will further benefit their academic performance. I feel fortunate to have discovered a career path, which fulfills both my sense of civic duty and my passions.