

TEACHING STATEMENT

JACOB LAUBACHER

The standard mathematics class has an unfairly perceived negative vibe. The typical student “hates math,” “is not good with numbers,” or thinks mathematics isn’t “their subject.” These ideas are probably reinforced by their peers, a bad experience with a math teacher in high school, or that one time when they failed a math exam. What most students do not realize, (and so is my goal to show them,) is that math isn’t all about numbers. Mathematics is not solely for the rare and lonesome math major, but for everyone! Mathematics is not a gate before graduation, but rather a window to see how to organize, acquire problem-solving skills, and use logic to guide ourselves. It is my job to illuminate and expose this, and if at the end of the semester my students walk away “hating” math just a little bit less, or they see some beauty that was once hidden, then I win.

Building an environment that is contrary to the usual classroom begins with my personality, and therefore for me is the most natural and easiest thing in the world. I do not want my students bound by protocol and convention; I promote informality. With this lack of rigidity in the classroom, my hope is that the students not only get more comfortable with me, but also with each other. They are then more willing to ask questions, talk amongst themselves, and visit me during my office hours. Though the structure is less restrictive, there is always formal, good, and correct mathematics being done.

My dynamic of teaching changes during office hours. I typically ask my students to write out the problem on the board. I will give prompting questions: “What next?” “What rule do you have to use here?” “How can you check that you’re right?” Sometimes the student is doing correct and legal mathematics, but just lacks self-confidence. If a student is really shy I also like employing the strategy of being their scribe. In this scenario, I am at the board with them dictating everything I write. Both have their place, and both have brought some success. I am always open to new ideas and techniques!

The ever-present challenge with teaching is to keep the students’ attention. If this requires me to tell some silly anecdote about some long-forgotten event of my life that may or may not relate to the current material at hand, then so be it! It’s very difficult to be a successful educator if one cannot demand, and hold, the attention of the students. A little humor goes a long way. As I always tell my class, I will get bored before they do.

My teaching style is mostly lecture; historically, this works best for me. I keep the lesson interactive, however, with questions coming from both myself and from the students. I

Date: June 1, 2018.

have found a happy medium with the use of technology in the classroom, whether it be through projecting desmos to graph cycloids in calculus II, or through the use of calculators to compute growth and decay problems in precalculus. During my tenure as a graduate student, I have taken four courses designed to maximize the potential of my teaching, much of which focused on technology in the classroom.

For smaller classes (fifteen students or less), I really enjoy setting aside one day per week as a “problem-solving day.” This entails the students going to the board in waves, working out a problem of their choosing (from a pre-selected list), and then explaining it to the class. If they are too shy, I always encourage that they “bring a buddy” to the board to accompany them, where they can work on it together.

This “problem-solving day” serves multiple purposes. It slows down the course and permits us to focus on the week’s main material. This has been extremely effective in, say, a calculus class when doing derivative rules, for example. Next I have found that a lot of the students in the class are future educators themselves. As a would-be teacher, this “problem-solving day” aids the student in their board-writing skills, as well as their ability to speak in front of an audience. Finally, this day serves as a barometer for the course. It lets me know where all the students stand with the current material, and whether or not I need to focus more on a particular concept.

I have been lucky enough to be the instructor of record for a wide variety of courses, with responsibilities including writing exams and quizzes, assigning homework, and all the necessary grading. Teaching lower level classes like modeling algebra, applications of contemporary mathematics, or basic calculus have given me the patience and understanding necessary to be successful to such a crowd. On the other hand, teaching the calculus series, linear algebra, or a foundations course have given me the satisfaction of teaching those who want to learn mathematics. I am always open to teaching something new, but also relish the idea of reteaching a course, and thus improving it.

One of the main messages that I strive to convey to my students is that, regardless of the material, there is always some value to any given subject. Moreover, I want to ingrain a confidence in my students that they have knowledge and potential. Learning is a process, and making mistakes is not only accepted, but it is also expected. Gaining insight from these mistakes measures the capacity to learn. By arriving at this realization, I hope my students leave my course with a skill-set applicable to their future careers.

DEPARTMENT OF MATHEMATICS, ST. NORBERT COLLEGE, DE PERE, WISCONSIN 54115

E-mail address: `jacob.laubacher@snc.edu`