

## Statement of Teaching Philosophy

**Benjamin F. Dribus**

In teaching mathematics, I seek to serve as a benevolent intermediary, communicating the abstractions of mathematics in a manner suited to the abilities and needs of my students. To the large proportion of students pursuing degree programs in nontechnical fields, a university math course can present an intimidating, alien environment. Even science and engineering students may find themselves surprised at the level of rigor. Under these circumstances, the task of dealing with students' doubts and expectations has proven as important, in my experience, as the technical process of organizing and presenting material. I try to convey the message that patience, participation, and hard, careful work are both necessary and sufficient for most students to attain reasonable success, even if math is not their favorite or most natural subject.

My principal objective in teaching mathematics is to supply my students with skills and habits of thought that will assist them in pursuing their own academic and professional goals. I try to accomplish this without subjecting them to unreasonable stress. Being physically large and of a naturally serious demeanor, I have found that most of my initial effort must be directed towards reassuring my students and encouraging them to engage with me on an individual basis. At the first meeting of each course, I ask my students to fill out a survey detailing their schedules, working hours, preparation, and academic goals. The primary purpose of this survey is to help me plan the course to suit its actual members. An important secondary purpose is to supply me with background information when meeting with struggling students, helping me to convey an appreciation for their particular needs. I try to demonstrate an attitude of thoughtfulness and goodwill extending beyond the strict duties of my position. For example, I have a tradition of baking cookies for my classes on test-review days.

I enjoy designing my own course materials, including detailed online practice tests and solution guides. This helps me to keep in touch with the potential pitfalls faced by students covering elementary ground for the first time, and saves time for activities that can only be accomplished in class. I particularly enjoy individual interaction with students during office hours. This permits me to employ a Socratic approach, nudging a student's experimentation towards a better understanding, without having to hurry on to the next topic. In lecture settings, I encourage students to participate actively, while showing consideration for their social anxieties. I have found that students enjoy activities such as helping me construct graphs of conic sections on the chalkboard by means of measuring sticks and pieces of string. I frequently bring physical props to class, such as rubber balls to illustrate geometric series or projectile motion.

A question I often ask myself is, what specifically can I give my students that they cannot easily acquire elsewhere? If I were a student, why would I want to come to my class or office hours? This question seems especially relevant in the information age, since myriad online sources are freely available on any academic subject. The best answer I can think of is that I can offer my students targeted, individualized interaction. I can answer their own specific questions, using their own words and their own choice of symbols. I can tell them "why" and "how," rather than merely "what," and can connect related ideas, while disentangling unrelated ones. Finally, I can motivate them by describing a variety of ways in which the concepts in question can be applied, placing special emphasis on connections with their own academic interests. In this way, I aspire to make mathematics accessible and relevant to my students, whatever their backgrounds and future plans.