

KEVIN TUCKER  
STATEMENT OF TEACHING PHILOSOPHY  
NOVEMBER 2009

---

Department of Mathematics  
University of Michigan  
530 Church Street  
Ann Arbor, Michigan 48109-1043

Office: 2852 East Hall  
Phone: (734) 763-0916  
Email: kevtuck@umich.edu  
<http://www.umich.edu/~kevtuck/>

---

Mathematics is a fascinating discipline. The subject is at once practical and intuitive yet also abstract and unpredictable. I have deep concern for my students and relish the opportunity teaching presents to share my passion for mathematics with others.

My approach to teaching is largely predicated on the view that students are better served through exposure to mathematical thinking than through rote memorization and computation. A primary goal of mathematics courses at all levels should be to help students discover the reasoning and motivation underlying their calculations. Students who understand the principles behind specific equations and algorithms are better prepared to use those techniques outside the classroom. To facilitate such learning as an instructor, I find it important to emphasize methods that push students to be active participants in the academic process.

Explaining concepts to others is an invaluable part of learning mathematics. It allows students to evaluate and reinforce their own understanding while simultaneously improving their ability to communicate their observations. For this reason, I try to incorporate numerous group activities when I am teaching. One of my favorite in-class exercises is asking students to briefly compare problem solutions with one another. Discussing answers and approaches with their peers often helps them grasp course material on a deeper level.

Each student brings a unique perspective to the classroom, and a good teacher is invariably an expert at soliciting and responding to individual feedback. An ongoing dialogue inside and outside the classroom allows an instructor to present information appropriately. While teaching, I try to find activities which prompt students to ask questions as they struggle to master important concepts. One approach I have found particularly useful is to organize student-directed review sessions incorporating old or sample exam questions. Letting the students choose which questions are covered identifies the most difficult topics while giving them a better understanding of course expectations.

Part of the challenge of being a successful teacher is finding the best way to continually motivate students. In the classroom, I seek to convey a sense of enthusiasm and excitement through my teaching. I give students ample encouragement and make myself available to them as a helpful resource. It is important to be honest and transparent about course requirements, and promoting high attendance is essential. I try to give students a reason to attend every class by striving to incorporate at least one activity (homework, quizzes, presentations, *etc.*) they feel should not be missed. Additionally, well-prepared lectures emphasize to students the value of limited class time and challenge them to match the instructor's outside efforts. Only by working together can an instructor and student meet their common objectives.

A good teaching philosophy is a work in progress, and I hope to continue improving as an instructor in the years to come. In the end, it is the students – often in the midst of exciting personal growth – that make teaching both enjoyable and rewarding. Perhaps my favorite part of teaching is the opportunity it affords me to help others achieve whatever goals they may hold. I am truly grateful for the unwavering support of my collegiate and graduate professors, and in return I feel a great responsibility in assuming that role for others.