

STATEMENT OF TEACHING PHILOSOPHY

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In my career as a mathematics instructor, I have aimed to achieve three goals: to effectively teach my students the material in the curriculum, to encourage them to think mathematically, and to help them gain an appreciation for mathematics as a whole. From my first session as a “peer tutor” in Grade 8, to working as a Grader during my undergraduate years at the University of British Columbia, to running discussion sections and teaching lectures at the University of Illinois, Dalhousie University, and the University of Newcastle, I have continued to develop my skills and to learn many different approaches to teaching mathematics. In addition, I have learned to recognize and deal with the many challenges facing mathematics instructors today.

A professor of mathematics is expected to teach to a very wide audience, and my experience as an instructor has prepared me to teach a wide range of courses. In addition to teaching the usual courses like calculus, I have worked with talented high-school students in the Canadian Math Society Math Camp, trained education majors in a math for middle school teachers course, taught graph theory to a class of computer science majors, and prepared undergraduates for the Putnam competition. These experiences not only raised my appreciation for the diversity of students in mathematics, but also allowed me to discover many different ways to teach, including the use of hands-on models and small discussion groups.

Since mathematics is an integral part of a wide array of disciplines, students in mathematics courses often have very diverse backgrounds and interests. As an instructor, I ensure that my lectures are relevant to the students, and that I am able to connect the material in the syllabus to applications that the students may encounter outside of class. I find that this approach not only keeps students interested in the material, but also strengthens their understanding of concepts by relating them to ideas they are comfortable with. The question, “Why are we learning this?” is an important one and the students deserve a serious answer.

As a teacher, it is crucial that I support under-performing students and help them succeed. Office hours, availability after class and by email, of course, are all standard ways of providing such support. However, they are all meaningless if students who need help do not seek it. These students may feel too embarrassed or intimidated to seek help, or may not be aware that they are under-performing at all. To remedy this, regular and timely feedback through homework assignments and exams are essential. I also strive to create a friendly environment in my classes, and to present myself as someone the students can connect with. Jokes, pop culture references, and historical quips are all important parts of my lectures. As the students feel more comfortable with me as an instructor, they are more likely to participate and ask questions both in and out of class, and the lecture transforms from a passive learning experience to an active one.

On the other side of the coin, it is equally important for an instructor to recognize and cultivate talented students in a class as well. As a graduate from the Vancouver School Board / University of British Columbia Transition Program, a program designed to prepare adolescents for early entrance to university, I know first-hand the impact encouragement and support can have on a talented student. Therefore, I encourage the outstanding students in my classes to pursue more advanced mathematics courses, to work on more challenging problems, and to attend competition training sessions where they can expand and further develop their mathematical skills.

I am always looking for new ways to improve my teaching, from learning new ideas from publications like the MAA Focus and Mathematics Teacher, to self-improvement using feedback from end-of-term student evaluations. Student feedback has been especially useful when I teach the same group of students over two terms, and I am better able to tailor my teaching to the students' learning style. Such feedback also helps me assess whether a technique resonates with the students.

Ultimately, what makes me a good instructor is that I am genuinely excited about teaching, and that I am sincerely concerned with my students' education. It gives me great joy to pass my love of mathematics on to the students, while at the same time preparing their minds to tackle problems they may face in other fields.