
TEACHING STATEMENT

I received my first teaching experience in a Lyceum (high school) in Kiev, Ukraine teaching special courses to students who wished to participate in various mathematical competitions and olympiads. When I joined the Department of Mathematics at Kansas State University in 2003 as a GTA, I found myself in a very different environment. Classes were larger, students had very different backgrounds and some of them did not like mathematics, and of course, teaching in English was a bit hard. Since then, my teaching skills have improved a lot, based on my own experience, tips from my teaching advisor and feedback from students, and I became much more confident as a teacher.

During the last seven years at KSU I taught a variety of courses, starting from College Algebra and up to Differential Equations. I have been a recitations/lab instructor during the regular year, and also taught a complete course, including lectures, in the summer. I was a course coordinator for Math 240 (Differential Equations) in Summer 2009. The other interesting part in my teaching experience was working with talented and highly-motivated students during REU programs. I was giving several lectures to REU students in 2007 and 2008. I have chosen several topics based on my current research, but suitable for undergraduates. In summer 2010, aside from lecturing, I was also responsible for GRE preparation workshop and was one of the panelist on the Math graduate school panel. This semester I am running Putnam workshop for math majors and other k-state students, interested in participating in math competitions.

In 2006 I was appointed Master GTA, which is a prestigious position that only four GTAs out of 40 currently hold. One of the requirements for this position is to demonstrate excellence in teaching undergraduate mathematics at Kansas State. As a Master GTA, I was a coorganizer of the GTA training program, which is designed to introduce new TA's to teaching recitation classes. In recognition of my achievements in the teaching field I was awarded the Stromberg Outstanding Graduate Teaching Assistant in Teaching Scholarship in 2008 and also was a Mathematics Departmental nominee for the Presidential Award for Excellence in Undergraduate Teaching in 2009.

During more than seven years of teaching at KSU I have adapted many principles that help me (and my students) achieve success.

Involvement and interaction: Teaching does not mean just providing information to students. Students should take an active part in the learning process asking and answering questions, solving or helping in solving problems, and even providing their own problems, examples and proofs, when appropriate. I always welcome questions, even during lectures (if the question is rather off-topic, I will invite a student to my office to discuss it later). In most recitation classes, problems are solved primarily by students, with my help or the help of a fellow student, if necessary. I encourage interaction not only between the students and me, but among all students in the class. Moreover, I found it effective to assign several students to do one problem together. This has two advantages: first, explaining solutions to somebody else helps student to clarify and memorize the main ideas; second, working in teams makes many students feel more comfortable, they do not feel that they are put on the spot.

Balance of abstract mathematics and real-life examples: In mathematics, the balance between providing formal definitions, theorems and proofs on the one side, and real-life problems, applications and examples on the other, is a crucial issue. Being too formal will diminish students' interest in the subject, and just giving examples alone will not give them the right idea about mathematics. Different classes need different levels of abstraction, for example, for lower-level classes, theorems might be given without proofs, and the focus is on examples and problem solving. Examples and problems should be related to students' actual field of study. In higher-level classes, abstract constructions are important and some examples may be purely theoretical. Finding a good example is not as easy a task as one may think. Proper examples must be short and easy enough for all students to understand, cover all the principal cases and not contain anything specific or irrelevant to distract students from the main ideas.

Passion and enthusiasm: In my opinion, you can't expect students to like learning if you don't like teaching. I love mathematics and I love to teach and I want to pass my enthusiasm onto the audience, and this definitely works! Also, I always try to engage students in activities beyond standard classroom procedures, including completing various extra-credit assignments, reading additional sources, participation in math competitions and summer programs. I am always open to questions and discussion about my teaching, try to get some new experience from every class I teach and I am happy to receive feedback from students.

Below are some comments from students regarding my teaching:

"I knew I could always seek help and she was very available. She explained each problem well and it was a pleasure to have as an instructor."

"I liked how Olena outlined/streamlined the essential material from the class. She thoroughly explained HW problems in class. Very fair in the way she conducts her recitation sections".

"I love the way you ran your lectures. It was easy for me to take good notes."

"The teacher was well prepared for class and did not like to waste time. She explained content in an understanding manner and appeared to like her job. Her grading procedures are fair and adequate. I would recommend this teacher for future classes."

"Excellent teacher who explains the material well and uses examples to clarify. Tests are very well written."