Teaching Statement by Eugene Mukhin

Main result. I have been teaching all levels of mathematics for more than 15 years now and to my satisfaction I still enjoy it. In my opinion this is the best indication that I do it right.

Theorem 1. I teach well.

Proof. Students like my teaching. I receive multiple e-mails, notes and oral approvals from them, evaluations are good.
My students seem to do well in COMMON departmental exams and in subsequent courses.
At the SAME TIME the DWF rate in my classes is lower than average.
My peer evaluations have been very positive.
I was recognized for Excellence in Teaching by the IUPUI Athletic Team.
I was awarded the 2006 and 2009 IUPUI Trustees Teaching Awards.

My approach to teaching. I use a rather individual approach to my classes. Even though I am often assigned to teach the same class several times, I end up teaching differently based on the audience I have at hand. This is the most challenging and rewarding part of teaching for me: to recognize the students in class and to find a way to convey to them the material of the course. I adore seeing the spark of sudden understanding and appreciation of mathematics in the eyes of my students.

Advanced classes and lower level classes are very different to teach. At the lower level it is very important for me to convince the students that, first, mathematics is worth studying and, second, it is possible to actually understand mathematics. Changing the attitude of students to the subject of mathematics after they have had many years of frustrating experience is extremely difficult but it is very rewarding for me as a teacher. I do not believe the goal of teaching is reached if a student just learns to add fractions and to solve quadratic equations through pain and disgust. In my opinion a student should not only learn to add two and two but he or she should actually ENJOY doing it.

In an advanced class with a more mature and confident audience, on the other hand, there is an opportunity to challenge and tease the students to stimulate creative and independent thinking. It is not easy either because it is extremely important not to lose the weak students while trying to push to the limits the strong ones. The choice of material and the presentation is crucial. Every week I give a quiz, and it is an art to invent two problems: the main problem should be hard but doable for almost everybody while the bonus problem should be easy but with a twist which makes people stop and wonder. And the best time of my life is when one day at the end of the semester suddenly almost everybody solves the problem with the twist.

Apart from my usual teaching duties I worked on an individual basis with members of the IUPUI Math team, which participates in national and state math competitions such as the Putnam, ICIMC, VTRMC, etc. In my opinion, the good performance of IUPUI students at competitions is very important for improving the outside perception of our University and our students.

In 2003, as part of this endeavor, I started a new course, Math 491, Competitive problem solving. This course is designed for the best math students who want to improve their skills of solving non-standard challenging math questions. It is a very different type of teaching - there is no need to motivate a student, no curriculum but instead one has to prepare for questions specifically made to confuse.

The IUPUI Putnam team was not ranked in 2005, then was placed number 147 in 2006, number 69 in 2007 and number 66 in 2008 in the US and Canada with more than 500 universities participating.

Other educational activities include teaching mathematics kids who are 4-8 year old at Sunday Indianapolis Russian School and participating in the organization of the IUPUI High school Mathematics contest.