

## TEACHING STATEMENT

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### 1. TEACHING PHILOSOPHY

Teaching mathematics is a challenge that brings me joy – I am fascinated by the subject of math, which is readily apparent in my teaching. On the other hand, there are those who consider it to be a difficult and boring subject, which they are not suited to learn. As it has happened many times, some of these people will become my students; and if that is the case, then part of my job is to show them that math can be both simple and fun and that they, too, can learn math. As a first step to overcoming preconceived ideas about math, I try to create a safe environment for learning: my classroom is a place where the students feel comfortable and can freely express themselves. I believe that if the students are allowed to express their concerns and doubts without fear, then they will be able to learn more effectively. This reasoning is rooted in the fact that as a student I have always worked in groups with my peers, and I came to realize that when we were by ourselves, arguing about how to solve a problem, everyone would learn from someone's particular doubts, questions and/or answers – even those that were too shy to ask the teacher what they could not understand in class. That is why one of my first sentences in all my classes is: “Interrupt me at any time, and stop me to ask questions if something smells funny...”.

One other thing that I have learned from interacting with my friends as a student is that no one has ever learned math by watching it be done. This clearly has two sides: one has to do with the teacher, the other with the student. On one side, it is expected from the teacher to engage the students and not bore them. One way to achieve this is by the use of new technologies as a means to motivate and illustrate how the material learned can be used on a day-to-day basis, and in this way prepare the students to confront the obstacles they will face in the real world. Another way is to challenge them to think about what they are witnessing all the time. In my classes I ask the students to interact with me and their colleagues in a way that they become as active as possible in their own learning process. I expect them to actively participate in my class by answering my questions, coming to the board, doing work in groups, and helping me explain what they and their fellow students cannot understand. On the students' side, they have to realize that learning any subject requires some time and effort, especially if the subject is math. Homework, I tell them, is not a way to punish them or my only way to assess their knowledge, but it is more like a tool for them to realize whether they actually understand the material we are discussing in class. If they are having trouble with the homework, they should come to me as soon as possible, so that we can try to find a way to overcome their difficulties with the specific topic.

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Finally, I should address the fact that although my teaching philosophy is based on my own interactions with my colleagues as a student, I do not believe that the role of the teacher is to befriend their students or try to be one of them as a means to teach effectively. As a teacher one also has a greater role of inspiring and recognizing the potential in each student. Of all the teachers I had, I fondly remember those who changed the way I saw the world and made me believe that I could also change the world if I only wanted to; those teachers that showed interest in my progress and demonstrated to me how the subject could be useful in my future; and those that each day made me more interested in the subject they were teaching, turning my natural curiosity into a continuous and rewarding learning process. These thoughts guide my teaching practices and ultimately shape what kind of teacher I strive to be.

## 2. TEACHING EXPERIENCE

I have been teaching for as long as I can remember. I started by helping my cousins study for their final exams in math. Then, at the early age of 11, my mom and uncles assigned me the honorable task of teaching my grandmother, who was unfortunately illiterate, how to sign her own name. Soon after, I was being hired as a math and English tutor by some of my mom's friends. At the age of 16, six months before entering college, I was very proud of receiving my first paycheck as a computer instructor. (At the risk of repeating things you know, let me add a few lines explaining my job: At the time most of the people in Brazil, including myself, could not afford to buy a computer. Since the use of computers was turning into a valuable skill, required in order to find a job, training centers were being opened everywhere to teach people how to use the computer as well as basic software - OS, Microsoft Office, Corel Draw, etc. After an internship in one of these training centers, I was hired by them to teach.) I was a computer instructor during most of my college years, and I carry great memories of this period: It was good to feel respected during the turbulent teenage years. I also met a lot of amazing people - some of them I am still friends with to this day. These years have also taught me two different things: first, I learned that patience is not only a virtue, but it is a fundamental skill if you aspire to be a teacher; later I learned how to overcome the natural fear of speaking in public.

There was a time during my college years that I did not work as a computer instructor. That does not mean I stopped teaching, however: my algebra teacher started recommending me as a tutor to his students. I tutored Algebraic Structures, Calculus and Real Analysis to many students. This also helped me pay for my undergraduate degree in "Math Education" (Licenciatura em Matemática), which means that I am a certified high school math teacher in Brazil. As part of my degree requirement, we are supposed to teach for almost one semester at a public high school under the supervision of an experienced teacher. I am glad that I had a wonderful supervisor, one that I could learn much from, especially some techniques to engage my students.

Half way through college, I become increasingly interested in pure math. And after participating in a summer school course in linear algebra, I decided to pursue a Master's degree in Mathematics, which I started right after college, in the beginning of 2001. One year into my master's degree, I learned about an opportunity to teach as a lecturer at the Federal University of Pernambuco, the institution where I was

studying. After passing a required test, I started teaching analytic geometry. In a year and a half, I taught five sections of analytic geometry, two of linear algebra, one of elements of the geometry of space and another of pre-calculus. I especially enjoyed teaching Linear Algebra because of the math content, and also pre-calculus, for different reasons: because it was a course directed to students seeking a Bachelor in Math Education, and also because it was the first time I taught more than sixty people at once. These, and the fact that the class was taught from 7-10pm (most of the students had to work during the day), made the class unusually challenging. However, I believe I was able to keep them interested and teach them some math.

In the Fall of 2003, I came to the University of Texas at Austin to pursue a doctoral degree in Math, and I was immediately assigned a Teaching Assistant (T.A.) position for differential and integral calculus. I must confess that even after several years as a teacher, the thought of teaching in a language different from my own was intimidating. As it turned out, I did not have much trouble expressing myself in English, and I was very proud when I received an overall instructor ratings of 4.6/5, 4.5/5 and 4.3/5 from the students in my different sections. Since then, I have served as a T.A. for more than three different professors during different semesters, graded a huge number of homework assignments and exams, and eventually became an Assistant Instructor of pre-calculus. Being responsible for my own class is a bigger challenge than working as a T.A., but so is the gratification that comes with it. Most of my students are in my class because they lack the basic mathematical skills to take calculus. Many of them have not seen math for a while. Some of them are unsure if the math they know is enough to succeed in class. For me it is a great pleasure to reassure them, and reassure myself, that math can be fun and that anyone may have the opportunity and the right to learn it. I am honored to have been teaching for so long, and I will gladly do it for as long as I have the opportunity.

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