

TEACHING STATEMENT

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I am a Visiting Assistant Professor (postdoc) at the University of California, Santa Barbara. Before, as a graduate student, I was a Teaching Assistant/Instructor at the University of Utah. While my teaching experience at the University of Utah was limited to teaching mathematics courses at a basic level (precalculus, trigonometry, and calculus), as a postdoc at UCSB I have had the opportunity to teach higher level courses such as Introduction to proof writing, Differential Equations, Mathematical Analysis, and Complex Analysis. Besides that, I have been the organizer of the UCSB Algebraic Geometry Seminar and several reading seminars in Algebraic Geometry for graduate students. I have also held honors contracts with students in upper division classes and have been involved, as a mentor, with summer research programs for undergraduates.

Starting my new job at UCSB I knew that I was going to be an instructor, but was unaware that I was to become a mentor. This implicit part of the job demands a big deal of focus and energy, but is compensated by the smiles of my students when they effectively learn a new concept. My most gratifying mentoring experience has been to serve as an undergraduate research advisor. In Summer 2017, I started directing a senior thesis in Algebraic Geometry, and even though I am fortunate to have a very bright and driven student, the main challenge was to choose the right concepts to teach him. I decided that I could do my best job as an advisor if I were to lead him into the subject I consider myself an expert in. After a very busy and fruitful summer he is now conducting graduate level research, and was able to present a poster with partial results at the Western Algebraic Geometry Symposium, a biannual meeting of algebraic geometers in the western half of the United States and Canada that traces its origins back to the Utah-UCLA Algebraic Geometry Seminar started in 1989.

During my meetings with students, I often find myself talking not only about math, but about my experiences in general and the way I got to understand what I am explaining. I discovered that students find you more reliable when you are honest about the struggle of learning math and when you put into evidence all the wrong ways to solve problems (those that forget about the beautiful machinery behind the algorithms). So at all levels, I decided to teach in the way I learnt rather than in the way I was taught—solving problems *with* my students instead of solving problems for them.

My methodology is therefore example-based. I let the students discover the significance of theorems through examples, so that the statements become evident. Of course, while doing this it is crucial to keep the mathematics flowing in harmony so that the students stay focus and stay curious. I give a significant amount of weekly homework that focuses on testing basic computational skills and the understanding of the statements in the theorems. At the same time, I assign additional (harder) problems that are rarely graded but are intended to push the boundaries of the students' knowledge.

On the other hand, I try to relieve the test anxiety of my students by providing comprehensive study guides that summarize the concepts I have presented. Somehow the material in the study guide should be familiar to the students that attend lecture. When providing the study guide I also let the students know what to focus on when studying for examinations. It is my philosophy that 75% of the questions on midterms and final exams should test basic skills and the remaining 25% should separate the students by the depth of their understanding.

In a very diverse community like UCSB, carrying the mantle of being someone who your students look upon is a big honor and responsibility. It was a great surprise when I was approached by my Latino students who decided to introduce themselves and informed me of their happiness of knowing that they were being represented by the instructional body of the university. Somehow, the inherent connection of being different often makes students comfortable enough to talk about their dreams and aspirations, making mentoring transcend the mathematical subject. Although in the past, I never identified myself with any group, I am now proud to be an example of an underrepresented group at UCSB and I hope to continue serving, through math, other diverse communities throughout my career.