My passion for teaching developed when, as an undergraduate student, I taught geometry and calculus to high school students and co-organized math workshops for the Mathematics Department at Sharif University. This interest in teaching was further encouraged as a Ph.D. student at Rutgers, where I taught several calculus recitations and workshops. In addition to my experience leading recitation and workshop sections, I assisted my graduate advisor in designing homework problems for a mathematical biology course and tutored some of his students individually. Like my research, my teaching experiences have bridged disciplines; as a Ph.D. student I ran a workshop in "Dynamical Systems with Applications in Biology" for biology majors. As a postdoc at Princeton, although teaching is not mandatory, I have been taking advantage of teaching opportunities and taught two graduate courses in "Nonlinear Systems" and "Applied Dynamical Systems", and I am teaching an undergraduate course in "Mathematical Neuroscience" this Fall.

I believe that mathematics can be taught in a way that is exciting with proper motivation and explanation. I use several different techniques to foster enthusiasm for mathematics in my classroom. First, mathematics is a subject rife with interesting history, and sharing this often engages students. Second, providing motivating examples from other fields, such as biology, chemistry, physics, engineering, and economics helps maintain students' interest. Third, explaining concepts intuitively, connecting seemingly unrelated aspects, and pointing out connections between a new concept and those they have already learned, help students remember the new materials, and reinforce earlier concepts.

I believe lecturing is not a one way communication system. Although it is always challenging to get students involved, I think there is no better way to help them learn more efficiently. I use different strategies for lower level courses and higher level courses to get the students involved in the class. I pose a challenging problem, break its solution into several stages, and encourage the students to think about each step. This way, they learn how to attack a problem. In lower level courses, if time permits, I spend a few classes on problem solving by letting the students work on a problem in small groups that include students with a range of mathematical abilities. I walk around the class and guide students with hints, refer them to a relevant exercise from the textbook, or ask them to draw a picture. In this way, the whole class is involved in active problem solving and I obtain immediate feedback about which concepts I need to re-emphasize. Combining students with a range of abilities is beneficial to the class as a whole; stronger students have a chance to reinforce their understanding of the concepts by teaching their peers, while struggling students benefit from explanations from a variety of sources. This technique is most useful for small classes but for large classes this can be done by teaching assistants in recitation sections which typically contain a smaller group of students. At the end, I ask one or two groups to present their solutions to the entire class. In higher level courses, I ask the students to choose one or two papers related to the course, read them, write a short summary of the papers, and present them in the class for a few minutes. Besides learning the topics deeply and learning how to read and understand mathematics papers, this gives an opportunity to the students to practice a teaching style.

In addition to the homework problems, I usually give regular quizzes, in lower level courses, so that students have the chance to test themselves on the materials. When students turn in a quiz, I immediately post a solution into my website or the webpage of the course and I hand back the graded quizzes as quickly as possible. Students appreciate this quick feedback, and it gives me a chance to determine where general strengths and weaknesses are. This also helps me get to know students individually and see how they progress during the semester.

In many universities, at the end of each semester, students can fill out a survey to evaluate their instructor. This evaluation is helpful for future teaching, but I strongly believe that my students should benefit from their own comments and suggestions. To accomplish this, I design and provide a mid-semester survey where I ask my students for their feedback. Throughout the semester, I also try to understand students' skills and interests and adapt the content and pedagogy to them.

I specifically enjoy interacting with students. I pay attention to students' effort [1] in class and in particular if a student loses her or his enthusiasm during the semester, I feel that it is my responsibility to put her or him back on track. For example, after a few weeks of the semester, in one of my calculus classes at Rutgers, I realized that one of my good students was not as active as she used to be. I approached her in a friendly manner to figure out the reason for this sudden change in motivation. While she told me that she was tired because she had to work to afford her tuition fees, I encouraged her to come to my office at her convenience for any help she needed in the course. Knowing that someone cared about her progress and having the flexibility to meet with me on her schedule, motivated her to study hard again. She passed the class with a B+. I never forget the joy of what we achieved together!

I am enthusiastic about teaching math courses of various levels; each has its own unique experience and lesson. I enjoy teaching courses that I have never taught as well as courses that I have taught multiple times. In the former, I am very enthusiastic about the new material and my enthusiasm tends to be contagious with my students. In the latter, I find the opportunity to improve my teaching style using my past experiences and the surveys!

[1] I believe in "Growth mindset", the idea that Professor Carol Dweck has popularized it. "In a growth mindset, students understand that their talents and abilities can be developed through effort, good teaching and persistence. They don't necessarily think everyone's the same or anyone can be Einstein, but they believe everyone can get smarter if they work at it."