

TEACHING STATEMENT

STEPHEN MCKEAN

I enjoy teaching mathematics at all levels, and I consider it an important part of my job as a mathematician. I have designed and taught courses at the high school, undergraduate, and graduate level, and I have also taught outreach courses for elementary school students. To me, the most rewarding part of teaching is helping students grow in their confidence and passion for math.

Awards and evaluations. At Georgia Tech, I received an award for having the highest student evaluations of any math department TA in 2019. At Duke, I won a [Bass Instructional Fellowship](#) for my proposed introductory proofs course for students in the humanities and arts, as well as the [L.P. Smith Award](#) for my long-term commitment to excellence in teaching. My [course evaluations](#) are consistently excellent, with over 80% of responding students giving me the highest possible overall rating. Many of my students have commented that I have been their best professor (whether in math, STEM, or overall):

Stephen is easily the best professor at Georgia Tech that I have had. He made waking up for the class worth it since he was always so enthusiastic and clear about the material. If Stephen could teach all math courses at Georgia Tech, I would consider becoming a math major. He has high care and respect for all students, and he wants everyone to succeed.

— *Calculus for life sciences (instructor), 2019*

Stephen was the best TA I ever had. He explained everything impeccably and gave so many examples. He not only taught us what is right but why it was right and I really appreciated that.

— *Differential calculus (TA), 2018*

Course design. I am mindful about planning and structuring the courses I teach. While at Georgia Tech, I was assigned to teach a course on [calculus in the life sciences](#) at the undergraduate level, as well as a [review course on abstract algebra](#) at the graduate level. I separated the calculus course into three modules (dynamical systems, integration, and differential equations) and picked several topics in biology, chemistry, and neuroscience to fold into each of these modules, which students appreciated.

Not too daunting. Concepts were carried throughout the chapters. LOVED the life sciences applications. Everyone is always complaining about wishing they would learn things that they'd actually use, and this was my first class -probably ever- to do that.

— *Calculus for life sciences (instructor), 2019*

Learning about the applications to biology. It made the class enjoyable and feel like material we would actually use in our careers one day. Usually I hate math classes because they are too much math and not enough applications, but this struck a perfect balance.

— *Calculus for life sciences (instructor), 2019*

I based the abstract algebra course around problem solving and time management in order to help grad students prepare for their comprehensive exams. At Duke, I designed and am currently teaching an [introductory proofs course](#) for students in the humanities and arts. This course focuses heavily on the creative process in proof-writing, as well as on communicating in written form (using \LaTeX) and oral form (using board talks). Regardless of the topic or level, I aim to structure all of my courses in a way that gives students a clear view of their path to success.

He was amazing and really sparked interest in the material. He set up the whole course before classes began so I always understood what was expected of me and what we had to do for the semester. The highly organized format he set up was SO SO helpful.

— *Calculus for life sciences (instructor), 2019*

Focusing on students' needs. My primary goal is to challenge and support each of my students in their individual learning process. My students learn that mathematical thinking is both useful in their own fields and beautiful in its own right. My enthusiasm for the subject and for teaching in general sets this tone for my students.

I don't know where to begin. Stephen's lectures were engaging, thorough, and his enthusiasm was infectious, especially at 8 in the morning.

— *Calculus for life sciences (instructor)*, 2019

Once this tone is set, my students are more willing to engage in the problem solving and group work that I integrate into my lectures.

Bless Stephen. He is the reason that I'm not failing Calc 2. Very clear and digestible recitations. Good structure. Especially liked forced group work because it made me like the people in my recitation and made me actually want to come to class.

— *Integral calculus (TA)*, 2018

Stephen did a good job preparing questions for lectures and interacting with students; he often guided students, but always allowed students to make connections on their own. Fun and engaging!

— *Differential equations and linear algebra (TA)*, 2020

While my courses challenge students to actively participate and take ownership of their learning experience, I strive to give my students all the support they need to be successful.

Stephen is hands down the best TA I've had at Tech. He clearly loves what he does and goes above and beyond what I expected of him. I would go to his office hours when my lab let out early, and he almost always stayed late, answering everyone's questions. Truly lucked out in having him as my TA. I would love to have him again.

— *Integral calculus (TA)*, 2018

Stephen is a very approachable professor and I never felt uncomfortable asking for help and attended office hours every week. He is super willing to go out of his way to help his students, which is much appreciated.

— *Calculus for life sciences (instructor)*, 2019

The greatest mark of success for my teaching is the growth my students experience in their confidence and interest in math.

The teacher's communication skills are excellent!!! I learned to love math even though I have hated it my entire life.

— *Calculus for life sciences (instructor)*, 2019

Stephen made me feel confident again in my math abilities. After taking Math 1551 last semester and struggling, I did not think I would ever do well in or understand another math class here at Georgia Tech. I am now ready to move on to my remaining math classes, and I am SO GLAD I took this class (even though it was an 8am every day). THANK YOU!!

— *Calculus for life sciences (instructor)*, 2019

Development and future goals. I continually work to improve my teaching skills by enrolling in pedagogy courses and workshops, and by soliciting feedback on my teaching from my students, peers, and mentors. I am also in the process of completing Duke's [Certificate in College Teaching](#) program. During the next few years, I plan on applying for and participating in [Project NExT](#) to further my pedagogical training.

Beyond training, I will improve my teaching skills by seeking out diverse teaching experiences. For example, I hope to teach a course on knots and braids to students in the creative arts, a course on algebraic topology for scientists and engineers, and a survey of category theory in various contexts for math majors. Each combination of subject and target audience would provide unique challenges that would enable me to further strengthen my teaching skills.