My teaching philosophy stems from my experience as an instructor at Duke. The various positions I held gave me an overview of the different roles of the educator, of students’ successive learning stages, and shaped my teaching methods. In the summer of 2016, I taught undergraduate intermediate microeconomics with calculus, a core course required for the economics major. In the summer of 2014, 2015 and 2016, I taught a graduate-level course in mathematics for economists, which I designed. Finally, over the academic years 2013 to 2016, I held weekly group sessions as a tutor for the core PhD sequences in econometrics and game theory.

Mentoring

I see my role as an instructor to be both a teacher, and a mentor. This vision is built on my experience, and is reflected in my goals and teaching style. I endeavor to set course objectives and develop teaching methods that allow students to develop not only knowledge of economic facts and analysis; but also, more generally, the reasoning, argumentation, and presentation skills that are necessary to navigate any type of career and life. As such, awareness of the specificity of one’s own learning style, resilience, courage to engage with a priori abstruse concepts, and ability to effectively, respectfully, and non-judgmentally exchange ideas with peers are skills that, I believe, should thrive over the course of one’s (college) education.

Teaching to individual styles

Acknowledging diversity and tailoring material

One of the main challenges I met was achieving these goals for all students, despite how diverse their academic backgrounds, life experiences, and goals were. The variety of subjects I have taught made me aware of the multiplicity of learning styles. For example, I taught ’Mathematics for Economists’ a required class for doctoral students in many different fields, with a wide range of technical backgrounds and research interests. The course had PhD students in economics, decision science, finance, strategy, public policy, and environmental policy. On average, over the three years I taught this class, about one-third of the class had not had a proof-based class, one-third just graduated with a math major (or masters), and one-third had been years removed from the classroom. In designing the course, I prepared extra material for those who needed to catch up, and established clear expectations so everyone could meet the objectives of the course.

In anticipation of heterogeneous backgrounds, I prepared a pre-requisite handout which was circulated to students weeks before the beginning of the class. The handout acknowledged the expected heterogeneity in backgrounds in the class, and included a self-evaluation problem set, which would be due after the first week of class, but which students were encouraged to look at before class to assess their level. The

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handout also included an invitation to email me if they felt uncomfortable with any material in the pre-requisite so I can plan a class or TA session covering their weaknesses.

A fair learning contract
In the first class meeting, I explicitly established a fair contract with students, which emphasized three essential elements.

Clear expectations. I described the class objectives, and put them in perspective of students’ broader academic and professional goals. I also expressed my unwillingness to compromise with the objective of developing essential life-skills. For instance, even though they could be reluctant to go and write on the board, I argued that oral and presentation skills are must-haves for virtually all the careers they would consider. I worked hard to foster a respectful and constructive environment, so students were comfortable. I would often encourage students to be wrong, but then guide them to the answer so the whole class could work through the thought process.

Explicit and reasonable steps towards the objective. To keep everyone on board when final objectives sound challenging, it is important to outline intermediary objectives, to be met successively over the course of the semester, and which sound credible to every student. For example, to address the large range of math backgrounds of students in my ‘Mathematics for Economists’ class, I created two distinct sequences of problem sets. The first one was designed for students mastering the pre-requisite handout, containing problems applying the new concepts seen in class as well and more challenging problems inspired from first-year PhD classes. The second set was designed for students who needed a serious review of the pre-requisite material, including for instance basic problems on mathematical logic and proofs instead of the other, more challenging material. I encouraged students to choose whichever one was most appropriate for their level of understanding.

Student responsibility. As mentioned, I believe it is my duty to deliver material in a way that is, as much as possible, personalized to each student. The additional details I give should precisely fill in the holes in their understanding. The examples I use to illustrate abstract concepts should speak to their acquired knowledge and experience. The extent to which I step in versus let them figure things out hands-on should address their particular way of learning and their specific level of understanding. I explicitly acknowledge this duty in the syllabi of each of my courses, and I am confident that the years of experience I have tutoring small groups built my ability to answer students’ needs. However, I also emphasize that it is each student’s duty to enable me to fulfill mine. They have to understand where the holes are in their understanding and point them at me. They have to collect and try to connect their knowledge to the new concepts and reach out when this connection fails. They have to try and figure out their way of learning to allow me feeding into it. Beyond enabling me to be an efficient teacher, going through these steps is, I believe, extremely valuable for students. Awareness of one’s learning process and courage to ask for help enhance one’s efficiency of learning in general which is one of the most valuable skills for one’s (professional) life. My students would probably agree that a characteristic of my teaching style is to answer questions by asking questions back. Walking students through the solution of their own problem, guiding them through intermediate reasoning steps is, to my experience, an efficient way to help students develop strong and conscious investigative skills. My class notes are constructed with this objective in mind. For instance, in ‘Intermediate Microeconomics with Calculus’, the version I make available to students before class meetings is an incomplete set of notes in which the key material has been replaced by questions. These questions are designed to guide their reading and preparation of the class. Many of these questions invite them to connect and compare new concepts to the material seen in previous classes—as such, they are an illustration of the way I encourage them to proceed when faced with a problem they are stuck on. This pre-class version of the notes shows the skeleton of the next class meeting, and highlights the logical connections between the various concepts to
be introduced. Incidentally, questions are also phrased to be close to standard problem/exam questions, and can therefore be used as a study guide. In the same spirit, I purposefully include a (too) challenging question in problem sets, instructing students to explicit their reasoning and the point at which they get stuck and fail to connect their knowledge to the question.

**Future directions**

Over the past years, I have taken multiple opportunities to practice my teaching and get feedback, both through being main instructor and guest lecturer in several classes, as well as holding tutoring sessions. Students’ evaluations have been a key tool to assess the effectiveness of my methods, and to better understand and address students’ needs. I also participated in Duke’s Certificate of College Teaching program, through which I got to be observed by my peers while teaching and to take classes on pedagogy, as well as in Duke’s Preparing Future Faculty program, through which I had the opportunity to reflect on and experience hands-on the academic career of my mentor. I hope to gain further expertise as my academic career moves forward. Given my experience and research areas at this point, I would be qualified to teach courses, both at the undergraduate and graduate levels, in game theory, microeconometrics, mathematical methods, treatment effects; as well as more topical courses such as methods for program evaluation; or economics of education, skill formation, and human capital investment.