

Maxim Troshkin - Teaching Statement

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I have taught economics in a variety of forms, from traditional lecture-style core courses to active research seminars, and at a range of levels including introductory macroeconomics, intermediate microeconomic theory, and advanced graduate-level topics in macroeconomics, public finance, and dynamic contracting.

My goals and approach when teaching undergraduate courses differ substantially from graduate teaching. At the introductory level, I focus on the key stylized facts and questions. I view this as particularly suitable for the *Introductory Macroeconomics*. My overarching goal in this course is to enable the students to construct a comprehensive and objective picture of the field that can inform as well as inspire their further study choices.

I approach the intermediate level courses as laying an analytical and methodological foundation that enables students to go on to more advanced study. I view *Intermediate Microeconomic Theory* as the cornerstone of the undergraduate economics major. My course also attracts other majors, who are typically interested in the foundations of economic theory and analytical methods. I emphasize the conceptual foundations of the theory. My approach is to balance a rigorous development of the foundations, using basic multivariate calculus and constrained optimization, with an intuitive understanding of the economic mechanisms, developed via students' active participation in analyzing concrete examples and applications to microeconomic topics. I cover the topics that are standard for this type of course – basic axiomatic decision theory, producer theory, general equilibrium and welfare theorems, imperfect competition models, a brief overview of the game theoretic approach – but I also typically seek to challenge students with topics like choice under uncertainty, non-expected-utility theories, the principle-agent paradigm, the basics of contracting under asymmetric information, and optimal income taxation.

My objective in the advanced graduate-level courses is to expose graduate students to current research questions and methods, and ultimately to help them start contributing original research. Part of that objective is hands-on instruction in state-of-the-art technical methods. In my contributions to *Public Finance II*, I focused on numerical and computational methods and how I and other researchers have applied them to advance the new dynamic public finance toward confronting empirical data and uncovering implementable policy insights.

In *Advanced Topics in Macro and Public Policy*, I focus on readying students to start making their own research contributions. The topics can be loosely described as originating with policy questions in macroeconomics and public economics. I propose a rough outline of the topics to start with and allow considerable flexibility so that students' interests determine the final layout of the course. Compared to other graduate courses, we spend much more time in the class going over the details of a smaller number of research papers and trying to understand them at several different levels: the technical details of the general proofs that

are key to the papers' conclusions, simple examples that students construct to illustrate the main economic mechanisms, and quantitative techniques.

The topics have included the applications of dynamic contracting to macroeconomic policy design, modeling broader notions of uncertainty and its implications for risk sharing in general equilibrium, the mechanism design approach to bank runs, computational methods for the primal approach to optimal fiscal and monetary policy with incomplete markets, and applications of optimal control to quantitative optimal dynamic taxation. I am also guided by these objectives and topics when organizing the department's *Macroeconomics Workshop*, which I view as an integral part of graduate student training.

Overall, I see insufficient scientific evidence that one particular setting or teaching approach outperforms others in a way that can be predictably replicated. My current solution to this problem is diversification: I structure my courses to allow a multitude of possible ways of learning, hoping to "catch" any given student with at least one of the ways. This includes designing the level of difficulty aimed at the top of the class (e.g., by including advanced topics like asymmetric information and non-expected-utility choice under uncertainty in the intermediate theory courses), but combining it with a safety net of discussion sections with teaching assistants and generous office hours for students with weaker backgrounds. This approach is clearly challenging and demanding, but also immensely rewarding. For example, the graduate courses have led to independent research by graduate students as well as collaborations among them and with them. Students' direct feedback and success stories are a big part of it as well. Some of them feel strongly enough to express them in person or in emails. Here are some of the examples:

"I learned a lot in your class and very much enjoyed your lectures. Having worked at [a research institution], I am familiar with your research and appreciated how you tied your experience into the curriculum."

"... I wanted to inform you of just how impressively useful everything you have taught me has been. I remember struggling immensely through your class, especially in the beginning; however, upon completion of the course, I realized just how much I had mastered."

"I ... am taking [several advanced courses], and have been amazed at how well your class prepared me. I find myself constantly referring back to your slides ... and always find useful information."

"[Intermediate microeconomic theory] has been one of the most challenging, yet exciting, courses I have taken. I greatly appreciate the extra time you took to assist me during office hours throughout the semester. "

"I ... want to thank you for being a great lecturer. A lot of professors [who are also active researchers] aren't the greatest for various reasons, so taking your class was a nice change to say the least."

"[P]lease continue instructing the way you do, it's incredibly refreshing."