

## SYLLABUS

### Overview

*Trade and Investment Strategy* combines theory, experimental methods and statistical inference to investigate strategic interactions in trade and exchange, including bidding, buying, selling, designing trading mechanisms, consumption-based portfolio analysis, and reconciling the goals of investors and their managers. It is arranged around three main topics, which form the basis for lectures. We start the course with a study of auctions, for they are the simplest examples of trading mechanisms. After working through an example, we describe the main kinds of auctions, investigate optimal bidding behavior, and compare revenue outcomes from using different auctioning formats, including procurement contracts that are closely related to auctions. Our second topic is electronic limit order markets, a trading mechanism that has not only taken over most financial exchanges but is also paradigmatic of almost all markets. We describe how they work, evaluate their efficiency, discuss where they might break down, and provide an introduction to trading on limit order markets. Our analysis of auctions and limit order markets shows us how far economists and financial analysts and strategic consultants can explore the market microstructure. This leads to an analysis of arbitrage in limit order markets, including hedging, picking off risk, and market liquidity. Arbitrage provides a link to the fourth topic, the fundamentals of insurance, savings and investment, spotlights individual choice to better understand attitudes towards risk and inter-temporal decision making. Finally we show how those attitudes determine asset portfolio choice.

The experiments utilize [Comlabgames](#), software for designing, running and analyzing experimental games over the Internet. You can launch [Comlabgames](#) in [Virtual Andrew](#). Lecture notes for the course, the experiments conducted in class, and details about the project requirements can/will be found at the course [website](#).

### Assessment

Roughly speaking, this course treats theory and empirical methods as equally important. Four assignments count 15 percent each, a take-home examination is worth 30 percent, while the remaining 10 percent evaluates your personal trading strategies in on-line experiments conducted in the last class. (One point will be deducted per day for each day late.) Please submit the assignments and you take-home using [Gradescope](#).

### Contact hours

My email is [ramiller@cmu.edu](mailto:ramiller@cmu.edu). Office hours are after class or by appointment. My teaching assistants, Hoang-Anh Nguyen: [hoangann@andrew.cmu.edu](mailto:hoangann@andrew.cmu.edu) and Yizhen Xie: [yizhenxi@andrew.cmu.edu](mailto:yizhenxi@andrew.cmu.edu) are also available to assist you.