

minicourse

Economics and Optimization of Online Marketplaces

Professor: **Gabriel Weintraub**, Sidney Taurel Associate Professor of Business, Columbia Business School



Markets are an ancient institution for matching the supply for a good or service with its demand.

Physical markets were typically slow to evolve, with simple institutions governing trade, and trading partners generally facing a daunting challenge in finding the "right" partner. The information technology revolution, however, has generated a sea of change in how markets function: now, markets are typically complex platforms, with a range of mechanisms involved in facilitating matches among participants. Recent trends point to an unprecedented level of control over the design, implementation, and operation of markets: more than ever before, we are able to engineer the platforms governing transactions among market participants. As a consequence, market operators or platforms can control a host of variables such as pricing, liquidity, visibility, information revelation, terms of trade, and transaction fees. On its part, given these variables, market participants often face complex problems when optimizing their own decisions. The decisions made by the platform and the market participants interact, sometimes in intricate and subtle ways, to determine market outcomes.

In this mini-course we provide an overview of recent research that improves our understanding of these markets; in particular, on how the market operator should design them, taking into account their operational details and engineering and technological constraints. The course will go over topics of general interest for online/platform markets such as two-sidedness, pricing, auctions, reputation systems, matching, and search. It will also study issues arising in specific online markets such as e-commerce (e.g., eBay), online labor markets (e.g., Upwork), and internet advertising (e.g., Google). We will draw from a mix of approaches including economic modeling and theory, optimization, and empirical and experimental work.

> Time and Place

**Tuesday July 7th,
10AM-1PM**

**[Auditorio Depto. de Ingeniería Industrial,
Universidad de Chile
República 779, Santiago]**

> Target Audience

**Graduate students (Masters and PhDs),
professors, and researchers.**

> Registration

seminarios@isci.cl

i Basic knowledge in microeconomics and game theory is recommended.