

NEW YORK UNIVERSITY STERN SCHOOL OF BUSINESS
Trading in Cash and Derivative Securities (GB.2349)

Instructors:

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Course Description

This course discusses how trade ideas are evaluated and executed. Facets of markets that are dramatically simplified in most introductory classes are the focus of attention here.

The first half of the course surveys a wide variety of well-known trading strategies, from taking seemingly riskless arbitrage positions (e.g., futures cash and carry) to “picking up nickels in front of steamrollers” (e.g., merger risk arbitrage) to exploiting past price patterns (i.e., momentum investing) to bearing market risk premia (e.g., long credit). How can one rigorously assess the risks and returns of these various strategies?

The second half of the course addresses the fundamental questions of execution: when to get in, when to get out, and how big to be? Some of the answers lie in modeling how real-world market frictions (i.e., trading, financing, and market impact costs; leverage constraints) affect optimal positioning. Many of the remaining answers lie in how to prepare for when the models break down (e.g., unanticipated volatility; illiquidity; loss of financing; crowded trades).

Materials, Requirements, Exams, and Grading

- Source material will include articles from academic journals and from the popular press.
- There will be approximately 5 homework assignments, including 2 trading simulations.
- There will be one or two guest speakers and one guest panel. Day students will be expected to attend the event(s) during their class and evening students will be expected to attend the event(s) during their class. These events will be recorded.
- There will be one midterm and one (non-cumulative) final exam.

The course grade will be determined through a weighted average of these scores:

Homeworks: 30%

Midterm: 35%

Final: 35%

Course Outline

- I. Trading Ideas: What strategies shouldn't work in principle; what might work; what ought to work; and how to tell which is which.
 - a. Academic theory holds that prices in financial markets are informationally efficient and don't offer any free lunches. What kinds of strategies does this rule out? What violations of this assumption do we observe in the real world and what accounts for them?
 1. Different classes of arbitrage, in theory and practice
 2. Technical analysis
 3. Trading strategies based on public information
 4. Behavioral finance: behavior that is theoretically irrational but universally observed
 - b. Some classes of trading strategies are expected to be profitable in an efficient market. What are they and how should we evaluate them?
 1. Statistical testing and performance attribution.
 2. Reward for providing "services" like market making, liquidity provision, exploiting limits to arbitrage, high-frequency trading
 3. Earning risk premia for bearing different types of risk
- II. Execution of Trading Strategies
 - a. Optimal Trading
 1. An Idealized Market with No Frictions
 2. Trading Costs and Discrete Price Changes
 - Applications: Delta hedging in the real world
 3. Financing Costs
 - Applications: Tech Stock Equity Carve-Outs; Treasury Triplets
 4. Market Impact Costs
 - Equities and VWAP Orders; Foreign Exchange Trading
 5. Equity or Leverage Constraints
 - Applications: Betting on a Tightening Cycle; Siamese Twin Shares
 - b. What Can Go Really Wrong and What to Do About It
 1. Model Risk OR You don't know the probabilities
 - Applications: Positive Carry Foreign Exchange Trades
 2. Liquidity Risk OR You're too big to get out
 - Amaranth Advisors
 3. Financing Risk OR Funding is Hard to Find
 - Applications: Negative CDS-Bond Basis; Denver Pension System
 4. Crowded Trades OR Everyone is in the same (losing) trade
 - Applications: Stat Arb 2007; Convertibles 2005; TYUO Basis 2000
 5. Some Survival Rules