

**Syllabus for
MTH 9879: Market Microstructure Models**

Textbooks:

Trades, Quotes and Prices: Financial Markets Under the Microscope by Jean-Philippe Bouchaud, Julius Bonart, Jonathan Donier and Martin Gould, Cambridge, 2018.

Empirical Market Microstructure by Joel Hasbrouck, Oxford, 2007.

Topics:

Market mechanisms
Theoretical and empirical models of the order book
The market/limit order decision
Inventory models
Rational expectations and models of strategic trading
Market making
Sequential trade models
Understanding the bid-ask spread
Variance and covariance estimation
The long memory of order flow
Models of market impact
Market impact of meta-orders
Price manipulation
Optimal execution strategies
Modeling latency
Optimal order routing algorithms