

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

Textbooks:

*Market Microstructure Theory* by Maureen O'Hara, Wiley, 1998

*Empirical Market Microstructure* by Joel Hasbrouck, Oxford, 2007

Market mechanisms

Theoretical and empirical models of the order book

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