Class Outline: 9865, Modeling and Market Making in Foreign Exchange

Class 1: Spot markets

- Structure of the spot market
- Voice trading
- Electronic market making
- Electronic hedging

Class 2: Forward markets

- Structure of the forward market
- Relationship to interest rate markets
- Spot/forward arbitrage and risk management
- Exchange-traded futures
- Voice trading
- Electronic market making
- Emerging markets and forwards

Class 3: Vanilla option markets (part I)

- Structure of the option market
- Volatility interpolation and event risk
- Vega risk and dimensionality reduction
- How vega risk affects the definition of delta

Class 4: Vanilla option markets (part II)

- Managing cross vega in terms of correlation
- Relative value analyses for volatility
- Voice trading
- Electronic market making
- Exchange-traded futures options

Class 5: Exotic derivative markets (part I)

- Stochastic volatility models
- Local volatility models
- Local volatility/stochastic volatility mixture models
- Jump diffusion models

Class 6: Exotic derivative markets (part II)

- Barrier products and mixture models
- Cross-asset products and copulas
- Volatility products and volatility risk premium
- Index products and unhedgeable risk

Class 7: Algorithmic index markets

- Beta indexes
- Carry indexes
- Volatility indexes