Practical Introduction to Quantitative Equity Trading (7 lectures)

Lecture 1:
Introduction to Stock Markets
Corporate actions: splits, dividends. Mechanic of short selling. Basic concepts P/E, P/B.
Overview of market microstructure: Order Book, limit orders, market orders, LOC, MOC, hidden
orders, exotic order types.
How to calculate PnL. Realized/Unrealized PnL, marking to close.
Overview of US exchanges and liquidity rebates. Simple market making strategies.

Lecture 2:
Benchmarks of success. Indexes. Introduction to ETF’s. Creation/redemption. ETF market
making. Index rebalancing trades. Simple arbitrage strategies.
Introduction to Statistical Arbitrage. Key ingredients of statistical arbitrage models: Risk Models,
Alpha Models (Signals), Market Impact Model.

Lecture 3:
Practical introduction to CAPM. Decomposing stock returns into systematic and firm specific
part. Alpha versus beta. Introduction to portfolio construction and optimization.

Lecture 4:
Methodology of historical simulations. Selecting trading universe. Market Impact Models in
details. Most common errors: Survivorship bias, lookahead bias, overfitting.

Lecture 5:
Classification of signals used for forecasting. Liquidity providing versus momentum trading.
Detailed analysis of simple strategies. Pairs trading and basic mean reversion strategies.

Lecture 6:
Multi-period optimization and dynamic programming. Combining multiple signals together.
Examples of realistic trading strategies.

Lecture 7:
Real life risk management, drawdowns, risk constraints. Extreme events in the markets.
Finding an edge.
Discussion of the proposed projects.