Syllabus: Quantitative Equity Investing

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Classroom: Rogers Hall Room 503
Class Time: 6-8:30 pm, Every Wed

Overview: This course will give comprehensive review of quantitative equity investing. We’ll cover practices in long-only and long/short spaces which will be taught by two instructors. Dr. Zhao will cover quantitative equity investing in long-only space and Dr. Copeland will focus on technique in hedge fund investing.

During first half of the spring semester in 2020, Students will get a comprehensive view of quantitative factor research, modeling and introduction of portfolio construction and risk management in long-only space. Students will have homework to learn about quantitative factor research and be assigned to the group for an investment proposal.

During the second half of the semester, the course will focus on hedge fund quantitative investment. The main goal is to apply quantitative technique to hedge fund portfolio selection as well to portfolio strategy. Students will be assigned one homework and one group project.

Grading Policies: The performance during each half semester will contribute equally to the final grades.
Both parts of courses will be graded at the following basis:

- 20% for homework
- 30% for class participation and presentation of project
- 50% for a group project paper

Class outlines:
Quantitative equity investing-long only:

Wk1: Introduction of quantitative investment
The history and evolution of quantitative equity investment on Wall Street, clients, relationship with academic research, challenges and future of quantitative investing

Wk2: Introduction to equity quants
Origin of equity quants, important quant shops, comparison of quant and fundamental stock selection and basic quant process

Wk3: Quantitative stock selection models (project assignment)
Introduction of quant factors, backtesting and evolution of quant models

Wk4: More on quantitative stock selection models
Limitation of quant factors and implementation shortfall
Wk5: Equity portfolio risk models
Basic ideas and types of risk models, portfolio optimization, vendors and examples
Wk6: Challenges and recent development
Competition and efficacy of quant models, new quants
Wk7: Project progress review
Spring break
Wk8: project presentation and conclusion of class

Quantitative equity investing-hedge fund:

Wk1: Introduction of Hedge Fund
Wk2: Portfolio Optimization and Trading
Wk3: Hedge Fund Strategy
Wk4: Hedge Fund Strategy
Wk5: Home Work due the beginning of class
Wk5: Hedge Fund Risk
Wk6: Hedge Fund proposal or Guest speaker
Wk7: project presentation
Wk8: project presentation