# Syllabus: Quantitative Equity Investing

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Classroom: Rogers Hall Room 302

Class Time: 6-8:30 pm

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 2019, 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