Introduction to Quantitative Investing
University of Houston
Bauer College of Business
FINA 7A97

Instructor: Jung Hwang   E-mail: jhwang2@Central.UH.EDU
Term: Summer 2017   Classroom: TBD
Day(s): Thursdays & Fridays   Office Hours: TBD
Time: 6:00-10:00 PM   Pre-Requisite(s): FINA 7A20 Capital Markets

A.   COURSE DESCRIPTION

This course is a practical introduction to Quantitative Investment for investment management. We will study topics in Equity Portfolio construction such as investment universe construction, factor selection, buy/sell ideas, backtesting and reporting of risk & performance measures. During the course, the students are expected to (1) demonstrate his/her understanding on quantitative investment process, (2) utilize Bloomberg terminals in portfolio construction, (3) read & discuss academic and white papers on equity portfolio construction & market trend, and (4) show the ability to construct a performance report. The course requires the students to have basic understanding on modern financial theories, simple performance/risk measure calculations, and MS Office Excel & PowerPoint. The course will be a combination of a class room lecture and a group/individual Bloomberg Terminal practice.

B.   COURSE OBJECTIVES

The objective of this course is to provide a general understanding of the quantitative investment process, equip students with a tool to create/replicate rule-based portfolios, enhance students' knowledge on current equity market and trend, and teach students relevant performance measures.

C. ASSURANCE OF LEARNING

We will learn:

- How to define an investable universe to construct a real-world portfolio using quantitative methods
- How to define factors and how to use them in portfolio construction
- How to utilize Bloomberg terminal for portfolio construction
- How to replicate existing ETFs
- The current market and research trend
- How to provide relevant performance measures
- (If possible) How to code R

D. COURSE MATERIALS

Lecture slides: the lecture slides will generally available before class. All electronic materials and their links will be available on Blackboard. Use Blackboard as your primary resource for all electronic materials for the course.

White papers: both Sell and Buy side companies produce white papers. These papers can be found on Blackboard or by google search.

Bloomberg Terminal: Bloomberg Terminal will be extensively used during the class.

E. GRADING

Class Participation and Attendance	20%
Individual Project	20%
Idea Pitch	15%
Excel Exercise	15%
Final Team Project	30%

- Class Participation and Attendance
- Individual Project: Present research on 2~3 types of Smart Beta ETFs with Similar strategies
- Idea Pitch: Based on the individual project, each student will propose a new smart beta ETF. Class participants will choose few ideas to create new ETF products
- Excel Exercise: Demonstrate the ability of using excel functions to calculate performance and risk measure on portfolio and benchmark
- Final Team Project – Smart Beta ETF based on (1) Universe Construction: feasibility, quality, due diligence (2) Ability to use Bloomberg terminal to conduct backtesting for last 5~10 years (3) Performance and Risk Report Quality and (4) Presentation
- Grade Determination

Final Grade	Letter Grade
95<=Grade	A+
85=<Grade<95	A
80=<Grade<85	A-
75=<Grade<80	B+
70=<Grade<75	B
65=<Grade<70	B-
60=<Grade<65	C+
50=<Grade<60	C
40=<Grade<50	D
Grade<40	F

F.   COURSE SCHEDULE

Class	Date	Main Topic
1	7/13/2017	Investment Review/Defining Universe
2	7/14/2017	Factors: Value, Growth, Momentum, Quality, Profitability, etc.
3	7/20/2017	How to Build a Portfolio using Quantitative Method (**Individual Project**)
4	7/21/2017	Let's Build a Smart Beta ETF with Bloomberg
5	7/27/2017	Backtesting, Performance Evaluation and Reporting (**Idea Pitch**)
6	8/3/2017	Review (**Excel Exercise**)
7	8/7/2017	Final Presentation/Evaluation

G.   ACADEMIC INTEGRITY

All students who are taking this course and the instructor are bound to follow Academic Honesty Policy set by University of Houston. Please refer the following link for the detail.

University of Houston Academic Honesty Policy

H.   ADDITIONAL INFORMATION

Instructor Biography:

Jung Hwang, CFA

Quantitative Research Analyst at Invesco

Jung Hwang is a Quantitative Research Analyst for the Invesco Global Solutions Development and Implementation team. Her research responsibilities include quantitative analysis on strategic and tactical allocation across multiple asset classes and investment vehicles. She also facilitates daily implementation of a suite of multi-asset portfolios.

Ms. Hwang joined Invesco as a quantitative research analyst for the Invesco Global Quantitative Strategies team. Prior to joining Invesco in 2011, she was a credit analyst for LG Capital Ltd in South Korea.

Ms. Hwang earned a BS degree in mathematics education from Ewha Womans University, an MBA from Texas Tech University and a PhD in finance from the University of Houston. She is a CFA charterholder.