CARNEGIE MELLON UNIVERSITY
Tepper School of Business – Fall 2015
Investment Analysis (45-821)

Syllabus

Professor	Dr. Lars-Alexander Kuehn
Office	GSIA 314b
Telephone	(412) 268-8501
Secretary	Work Processing Center
E-mail	kuehn@cmu.edu
Webpage	http://blackboard.andrew.cmu.edu
Twitter	Risky_Arbitrage
Office hours	Tuesday, Thursday 3-5pm
Lecture	Monday and Wednesday, 10:30am to 12:15pm, Cooper Auditorium

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1 Objective

The objective of this class is to introduce you to the tools used by investment professionals to manage assets and their risks. The focus is on buy-side and sell-side analysis. The course covers optimal asset allocation, its performance evaluation, fundamental and factor-based firm analysis, and risk management. The goal is to apply basic tools in finance as such mean-variance portfolio optimization and gain a better understanding why and when these tools fail. As such we will talk about the measurement and implications of tail events, the impact of liquidity on prices and trading, and the implications of return predictability.

A partial list of topics, which the course will cover, is the following:

- Portfolio choice: mean-variance frontier, diversification, index model

- Factor models: CAPM, Fama-French model

- Pricing anomalies: value and size effect, momentum, accrual, beta and volatility mispricing

- Tail/extreme market events: simulations, VaR, portfolio choice implications

- Tactical asset allocation: return predictability

- Commodity investments: diversification, futures arbitrage

2   Course Material

Each lecture is accompanied by slides. These slides contain the tools to solve the cases. In addition, there will be supplementary readings and Excel files, all posted on Blackboard. My favorite book on investment analysis is the new book by Andrew Ang called Asset Management. Note, I do not require that you purchase the book. Please read the Wall Street Journal.

- Lecture notes

- Supplementary readings

- Excel files

- Wall Street Journal

- Text book:

    - Andrew Ang: Asset Management, 1st ed.
    - Zvi Bodie, Alex Kane, Alan Marcus: Investments, 9th ed.
    - Richard Brealey, Stewart Myers, Franklin Allen: Principles of Corporate Finance, 10th ed.

3   Evaluation

Case: The class will cover 5 cases. Each group will present one case in class. The group presentation and report is worth 40% of your grade. The report should have a length of 5 pages of text. To get an A+ grade, I expect students to do a phenomenal job in both the presentation and write up.

Report: One report is also required. The questions for the shorter report are clearly marked in the assignments. You might want to do more than one shorter report to diversify the grading risk; the rule is that the final grade is the best grade across reports. All reports should be nicely formatted and written in proper English. All reports are due at the beginning of the lecture, to be posted on Blackboard.

Sell-side competition: In the last week of class, each group will present their analysis for one company to convince a portfolio manager to invest in this company. This competition is a classical sell-side pitch based on fundamental and factor model analysis.

Class participation: This is important to the success of the course. Please come to class prepared and feel free to ask questions. Many of the key concepts are very challenging and often a strategic question by you will make the concept clearer for others in the class. If, for some reason, you have to miss a class, please get the notes from one of your classmates

and review them carefully. Class participation will affect grades in borderline cases (e.g., to discriminate between an A- or a B+).

- Case presentation and report: 40%

- Short report: 30%

- Sells-side competition: 30%

In general, and for the final project in particular, students are expected to abide by the **Tepper School's Code of Conduct**. A student's responsibilities include refraining from lying, cheating, stealing, misuse of computing resources, and other distrustful behavior. Cheating includes, but is not limited to, (i) submission of work which is not the student's own for papers, assignments, or exams and (ii) collaboration in the preparation of an assignment, if such collaboration is explicitly prohibited by faculty. Please see Section 8 of the MBA Student Handbook for more information. I use the following grading scheme.

Grade	Value	Meaning
A+	9	Outstanding
A	8	Excellent
A–	7	Very good
B+	6	Above average
B	5	Average
B–	4	Below average
C+	3	Poor
C	2	Very poor
C–	1	Extremely poor
D+, D, R	0	Failure

4 Schedule

Week	Style	Topic
1	Lecture 1	Mean-Variance Investing
	Lecture 2	Factor Models
2	Lecture 3	Tactical Asset Allocation
	Case 1	Active Portfolio Management
3	Guest lecture	Geoffrey Gerber, TWIN Capital Management
		Peter Goslin, Mellon Capital Management
	Case 2	Dimensional Fund Advisors
4	Case 3	Pravda Asset Management
		Thanksgiving
5	Lecture 4	Alternative Investments
	Lecture 5	Management of Tail Risk
6	Lecture 6	Fundamental Analysis
	Case 4	Commodity Investing
7	Case 5	AQR Momentum Fund
	Case 6	Sell-Side Competition