RECOMMENDED COURSE MATERIAL

1. Anson, Mark, Handbook of Alternative Assets
2. Kochard, Lawrence and Rittereiser, Cathleen, Foundation & Endowment Investing
3. Swenson, David, Pioneering Portfolio Management
4. Waring, M. Barton, Pension Finance, (November 2011)
5. “Honeywell Corporation: An Introduction to Corporate Pension Plans” (Columbia Caseworks)
6. “Yale University Investments Office: August 2006” (HBS Case Study)

RECOMMENDED PREREQUISITES AND CONNECTION TO THE CORE

The learning in this course will utilize, build on and extend concepts covered in the following core courses:

<table>
<thead>
<tr>
<th>Core Course</th>
<th>Connection with Core</th>
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<tbody>
<tr>
<td>Corporate Finance</td>
<td>1. Time value of money</td>
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<td></td>
<td>2. Opportunity cost of capital</td>
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<td></td>
<td>3. Efficient markets</td>
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<td>4. Risk</td>
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<td>5. The Capital Asset Pricing Model (CAPM)</td>
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<tr>
<td>Decision Models</td>
<td>1. Constrained optimization</td>
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<tr>
<td>Global Economic</td>
<td>1. Exchange rates</td>
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<tr>
<td>Environment</td>
<td>2. Fiscal policy</td>
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<td></td>
<td>3. Monetary policy</td>
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<tr>
<td>Managerial Statistics</td>
<td>1. Statistics data analysis</td>
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<td></td>
<td>2. Linear regression</td>
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Students will be expected to have mastered these concepts and be able to apply them in the course.
Students are recommended to have taken or exempted from B6301 Corporate Finance, B6302 Capital Markets and Investments and B8323 Asset Management.

**COURSE DESCRIPTION**

Pension plans represent a huge pool of investable assets. On a global basis, pensions account for approximately $32 trillion dollars in assets, with U.S. corporate and public defined benefit pension plans accounting for an estimated $5 trillion in investable assets. Meanwhile, “alternative assets” are a large and growing component of the pension landscape, accounting for about 18% of this total as of the end of 2013.

Given recent market volatility and the current low interest rate environment, DB pensions are likely to continue to invest in hedge funds and other alternatives assets in order to meet their long-term return objectives. Markets that have been or are likely to be in long term structural bear markets are also strong candidates for alternatives in pension plans.

This course examines key themes and issues related to investing in alternative assets from the perspective of major asset owners, such as defined benefit pension plans. The course will focus on the investment process and benefits of applying alternative investments, specifically hedge funds, private equity, and other real assets, to traditional portfolios.

The three primary goals of this course are for students to:

- Understand the objectives, constraints and structural issues facing corporate and public pension plans;
- Appreciate the role of alternative investments, such as hedge funds, private equity and real estate, within pension portfolios;
- Learn a robust manager selection, portfolio construction and investment process for alternative investments.

Aside from students who are looking to pursue careers in corporate or public pension plans, those interested in alternatives, traditional investing, fund of funds, consulting or alternatives research, equity research, sales, trading and banking would benefit from this course. In summary, any practitioner, investing in alternatives or with clients investing in alternatives, would be a beneficiary of the knowledge imparted from this course.

**COURSE OBJECTIVES**

The professors will provide extensive practitioner insights, as well as theoretical and empirical examples of the concepts covered. The course will be a combination of lectures, class participation, and student projects. The professors will present and discuss the key concepts in lecture format. Students will be encouraged to ask questions and participate in class discussions to a significant extent. Finally, the professors will invite industry leading alternative asset management practitioners, including alternative portfolio managers and pension Chief Investment Officers, who will expound on the most topical issues in alternatives assets and institutional portfolio management.

**GUEST LECTURERS**

There are expected to be significant guest lecturers, and possibly a panel, throughout the course. Prior guest lecturers have included Scott Bessent (CIO of Soros), Kyle Bass (CIO of Hayman Capital), Anthony Scaramucci (Founder of Skybridge), Larry Schloss (President of Angelo Gordon) and Carol McFate (CIO of Xerox Pension Fund).
ASSIGNMENTS AND FINAL CASE STUDY

Students will need to prepare two primary deliverables for this class. There will be a mid-term assignment, comprised of an executive summary regarding a current investment issue. Also, there will be a final case study to be presented on the last day of class. For both the mid-term assignment and final case study, the majority of the paper and presentation is expected to be thoughtful analysis, both quantitative and qualitative.

Mid-Term Assignment

Students may work individually, or in a team, for the mid-term assignment. Students should prepare an executive summary (maximum of 2 pages) regarding one of the topics below. The summary should include a specific recommendation, including supporting facts and rationale.

1. CALPERS: In September of 2014, the California Public Employees’ Retirement System (CALPERS) announced that it will terminate its $4 billion hedge fund portfolio. What was the rationale for CALPERS’ decision? Where should CALPERS re-allocate the cash upon liquidation? Was this a good decision? Discuss.

2. State of Rhode Island. In Rhode Island, the public pension plan was a significant source of debate during the 2014 gubernatorial elections. In addition to many structural changes, the state’s pension plan has a significant allocation to hedge funds and other alternatives. One newspaper asked: “Sophisticated Wall Street hedge funds have lost the business of Calpers, the country’s largest pension fund. They’ve also complicated the governor’s race in Rhode Island. Are the returns worth the trouble?” (The Guardian, September 16, 2014). Discuss hedge funds in the context of public pension plan objectives and constraints. Should the Rhode Island public pension plan continue to invest in alternative assets?

3. Japan’s GPIF. In October, 2014, Japan’s $1.2 trillion Government Pension Investment Fund said it plans to take more aggressive bets by slashing how much money it puts in domestic bonds and ramping up its investments in stocks. What are the risks with this change in strategy? Can alternative investments play a role in Japan’s pension? Discuss.


5. Other current topical question. The professor may provide additional topics once the course is underway. Any topic must be agreed upon with the professors.

Final Case Study – A Pension Plan Asset Allocation Recommendation:
Class students will be asked to prepare an investment recommendation to a specific corporate or public pension plan. Students should work in small teams as agreed upon with the professors. Each team will submit electronically and present final case studies on the last day of the course.

The team should assume they are delivering the recommendation to a Chief Investment Officer or Investment Committee of a pension fund. The recommendation should consider all relevant factors for the asset owner. The recommendation should involve a change in the overall asset allocation, as well as implementation or liquidation of a specific traditional or alternative strategy.

<table>
<thead>
<tr>
<th>Type</th>
<th>Designation</th>
<th>Discussion of concepts</th>
<th>Preparation of submission</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>group / group</td>
<td>Permitted with designated group</td>
<td>By the group</td>
<td>Same grade for each member of the group</td>
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**METHOD OF EVALUATION**

The final grade for graduates will be determined as follows:

<table>
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<tr>
<th>Factor</th>
<th>Impact on grade</th>
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<tr>
<td>Mid-Term Assignment</td>
<td>30%</td>
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<tr>
<td>Final Presentations</td>
<td>40%</td>
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<tr>
<td>Class Attendance &amp; Participation</td>
<td>30%</td>
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**CLASSROOM NORMS AND EXPECTATIONS**

**Class Meeting and Attendance:**

Class attendance is mandatory and highly recommended in terms of achieving a top quartile grade. If a class is missed, fellow students should be consulted on what was accomplished during the class time that was missed, and handouts for that day’s session should be collected (before or after). There may also be a video recording that can be watched.

We expect students to be current on financial market activity. Recommended recurring periodical reading includes; The Wall Street Journal, the business section of the New York Times, The Financial Times and Barron’s.

Per CBS business school policy, there are NO electronic devices to be used in classroom.

Office Hours – The professors will be available during the break and before and after class (as late as needed).
CLASS SCHEDULE

1. **First Class**

**Overview: Pension Plans**

- Pension Plans: Investment Goals and Constraints
- Corporate DB Plans
  - Funding Levels: History and Trends
  - Asset Allocation: Liability Driven Investing
  - Pension Protection Act of 2006 - constraints and impact
- Public DB Plans
  - Funding Level: History and Trends
  - Expected Rate of Return (Median 8% target)

**Key Questions:**

- How do the different goals and constraints of pension plans impact their asset allocation, especially as it relates to alternatives?
- What is an appropriate allocation to alternatives for corporate plans? Public plans?
- How do alternatives fit into an LDI framework for corporate plans?
- How do structural issues such as size, investment capability, and governance constraints impact an asset owner’s ability to invest in alternative assets?

**Overview: Hedge Funds**

- Introduction
- Current state of the hedge fund industry
- Value of Hedge Funds in Institutional Portfolios Versus Traditional Active Managers
- Statistical Analysis of Performance Results and Risk Analysis

**Reading:** “Honeywell Corporation: An Introduction to Corporate Pension Plans” (Columbia Caseworks, 2013)

**Key Questions:**

- How do hedge funds generate alpha?
- How can hedge funds improve the risk / return profile of institutional portfolios?
- How does one analyze hedge fund returns and risk?

2. **Second Class**

**Pensions - Defined Contributions Plans**

- Overview of the 401K plan landscape
- Role of alternative assets within DC Plans
- Target Date Funds
Key Questions:

- Can alternatives play a significant role within Defined Contribution plans?
- What are the risk of including alternative strategies within 401(k) menus?
- What is an appropriate allocation to alternatives within Target Date Funds?

Hedge Fund Manager Selection and Portfolio Construction

Hedge Fund Manager Selection Requirements

- Manager Research Interview Process and Research Report
- Operational Due Diligence, Business and Investment Risk analysis
- Hedge Fund Life Cycle, Balance of Power and Fund Structures

The Intermediary Alternatives

- Portfolio Construction
- Case Study – The Impact of Dispersion, Correlation and Volatility on Fundamental Long/Short Managers
- Benefits of Adding Hedge Funds to International Pension Portfolios
- Investment Process for Pension Plans
- Summary

Key Questions:

- How does one select hedge fund managers?
- How does one write a manager research report?
- What are the most important elements of Operational Due Diligence?
- What is the hedge fund life cycle like?
- How has the balance of power shifted in the hedge fund industry?
- What are the intermediary alternatives, and their advantages/disadvantages?
- How do variables such as Dispersion, Correlation and Volatility impact manager returns?

Guest Speaker: TBA – Hedge Fund Manager

3. Third Class

Global pension plans

- Global pension landscape and major issues
- Australia Superannuation Funds
- Japan’s Government Pension Investment Fund
- Latin America: Brazil, Mexico

Key Questions:

- Have pension plans outside the United States begun implementing alternative strategies?
- Can alternative assets play a significant role in solving pension challenges in markets such as Japan?
Hedge Fund Summary and Conclusions

Key Questions:

- What are the benefits of adding hedge funds to international portfolios?
- What is the investment process for pension plans?

Guest Speaker: TBA – Hedge Fund Manager

4. Fourth Class

Overview: Private Equity and Infrastructure

- Private Equity/Leveraged Buyouts
- Convergence of private equity and hedge funds
- Infrastructure Assets

Key Questions:

- What are the advantages and disadvantages of private equity in the pension plan context?
- How does the illiquidity of most real assets (aside from commodities and public real estate) impact portfolio construction and returns?
- What other benefits- such as inflation hedging, dollar hedging, etc. – should institutional investors consider in investing in Real Assets?

5. Fifth Class

Overview: Real Estate and other Real Assets

- Real Estate - Public vs. Private
- Real Assets: Timber, Commodities, CTAs
- Commodities

Alternative Assets in Pension Plans – Summary and Conclusions

- Summary
- Key principles and practices
- Areas for more thorough exploration

6. Sixth Class

Pension Plan CIO Panel

Final Case Study & Presentations
For two decades Michael has invested directly at the security level and indirectly as an asset allocator in traditional and alternative asset classes. Currently he is Chief Investment Officer of MOW & AYW LLC. and an Adjunct Associate Professor of Economics and Finance at Columbia Business School. At MOW & AYW LLC. he provides bespoke multi-asset/strategy investment solutions. At Columbia Business School he has taught Institutional Investing: Alternatives in Pension Plans.

He has spent the last nine years at FRM, a diversified multi-strategy fund of fund where he headed the equity business and was involved in the investment, asset allocation and management of the business. Prior to that, he was an equity and event long/short portfolio manager at Soros, the macro fund and family office, and a multi-strategy prop desk and hedge fund, Modal Capital Partners, at Credit Suisse First Boston. Before that he was a Real Estate analyst at Dean Witter. Over his career he has also been involved in investments in Private Equity, Venture Capital, Credit, RV, Macro, Commodities and Infrastructure investing.


He is a volunteer at the Columbia Business School Hermes Society and a mentor and events committee member for YJP, a not for profit young professional organization. Michael is a published author and a frequent panelist, moderator and lecturer for investment banks, Family Office organizations, business schools, including the London School of Economics, and SALT. Michael has a BS from New York University, an MBA from Columbia Business School and is a CFA charter holder.
Karl Mergenthaler, CFA is an Executive Director in the J.P. Morgan Investment Analytics & Consulting Group. His principal responsibility is to provide analytical and consulting services to pension funds and other institutional investors.

Karl has more than 15 years of experience in the financial services industry. Prior to joining J.P. Morgan in 2007, Karl was an equity analyst and portfolio manager at Avatar Associates, where he was actively involved in the management of portfolios of Exchange Traded Funds (ETFs). Previously, Karl was an equity analyst at Banc of America Securities responsible for the machinery industry.

Karl has published numerous articles including “Commodities – Where do They Fit?” (J.P. Morgan’s Thought Magazine, Spring 2010), “Active Currency Management for Institutional Investors” (P&I Online, 2010), “How Quants Stack Up against Fundamentals” (Pensions & Investments, January 7, 2008) and “An ETF Solution for 401 (k) Plans” (Plan Sponsor, October 2006). Karl has been quoted by numerous publications including Bloomberg, Fundfire, and others.

Karl is a Chartered Financial Analyst (CFA) and a member of the New York Society of Security Analysts (NYSSA). Also, he is a Certified Public Accountant (CPA). Karl earned a B.A. degree in economics from Wesleyan University (1992) and an M.B.A. in finance from Columbia Business School (1998).
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