



NORTHWESTERN UNIVERSITY

Asset Management Practicum I and IV
Spring 2018
Wednesday, 6:30 pm – 9:30 pm
Room 2420

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Asset Management Practicum I and IV - Preliminary Syllabus

(March 24, 2018 – Subject to Change)

AMP I is the first of a four-quarter sequence in asset management and AMP IV is the last. The focus of this course sequence is to give the students both a theoretical foundation and practical experience in the management of investment portfolios. Students in the Asset Management Practicum are responsible for managing a portion of the University's endowment portfolio, currently divided into five funds. The equity portion of the funds is invested based on the fundamental security analyses of students in the class. Three of the funds allow short positions as well as long positions, whereas the fourth fund is long only. The funds allow the use of quantitative strategies as an overlay to the fundamental analyses.

Additional information about the course is available at:

http://www.kellogg.northwestern.edu/asset_management

and at our course Canvas site. The Canvas site and the associated Dropbox sites for AMP I and IV and all the historical "AMP 2" directory contain a significant amount of material, both current and historical. Practicum students have exclusive access to an office that has Bloomberg terminals, our trading software, Barra, CapIQ, FactSet, and other analytics packages.

Overview of AMP I and IV

Classes: The class meets every Wednesday evening. A detailed schedule is given in a separate attachment.

Attendance: Students are expected to attend all class sessions. Students may miss one class without penalty. If a student misses more than one class *for whatever reason* they will receive a reduction of 25% of the whole quarter's participation score for every class they miss beyond the first one.

Timeliness of Assignment Submission: Guest speakers and pitch evaluators, in addition to class members and faculty, need to have sufficient time to review submitted materials before class. Because of this, it is critical that assignments be submitted on time. Assignments that are not submitted on time will lose 2% of the grade for every four-hour period (or fraction thereof), they are late. For example, if an assignment is submitted between 1 minute and 240 minutes late, there will be a 2% reduction in the assignment grade (2 points on a 100-point assignment) and if an assignment is submitted between 20:01 hours and 24:00 hours late, there will be a 12% reduction in the stock pitch grade (12 points on a 100-point assignment), etc.

Required oral presentations: Students can only change the dates of their stock pitches and stock updates by swapping their time slot(s) with another student. There is no other way to move the dates. Students are required to orally present their stock pitches and stock updates on the assigned dates (or swapped dates). If a student, *for whatever reason*, does not present on their assigned dates (or swapped dates) they will receive no credit for the assignment, even if they provide the written reports.

Teaching Assistants: The course teaching assistants are:

Marco Sammon marco.sammon@kellogg.northwestern.edu
Apoorv Gupta apoorv-gupta@kellogg.northwestern.edu

The TAs are Finance PhD students and are available to help you with data and software issues.

Prerequisites for First Quarter of AMP: FINC 441 or FINC 440.

Total Co-requisites: Over the three-quarter AMP sequence students must take a total of three quarter credits in asset management-related courses:

- a) One of FINC 442, FINC 444 or FINC 477 must be taken during or before the first quarter of the practicum. Students are required to submit an unofficial Kellogg transcript showing they are enrolled in or have taken one of these classes by the end of the first week of the quarter. After the end of the term students are required to submit another Kellogg transcript indicating they have completed the class. Students who do not do this will not be able to continue in AMP.
- b) FINC 950 Capital Markets
- c) One course from the following additional courses list:

FINC 442 Financial Decisions
FINC 444 Value Investing
FINC 447 Financial Strategy and Tax Planning
FINC 448 M&As, LBOs and Corporate Restructuring
FINC 451 Money Markets and the Fed
FINC 459 Asset Management Practicum IV (if student has taken AMP I, II, and III)
FINC 465 Derivative Markets
FINC 473 Macroeconomic Policy and Global Capital Markets
FINC 477 Global Entrepreneurial Finance
ACCT 451 Financial Reporting and Analysis
ACCT 452 Financial Reporting and Analysis II

Honor Code: All students enrolled in the Asset Management Practicum must abide by the Kellogg Honor Code. If you are unsure of what this means, read the honor code:

http://www.kellogg.northwestern.edu/stu_aff/policies/honorcode.htm

Most of the formal assignments in the Practicum are individual assignments. You may discuss ideas and issues for your assignment with other member of the class, but the final work product must be your original work.

Code of Ethics: Since you will be managing millions of dollars in the Practicum portfolios, the Practicum faculty expect the highest level of ethics to be followed at all times. Students in the Practicum must familiarize themselves with the *CFA Institute Code of Ethics and Standards of Professional Conduct* and with the *Practicum Code of Ethics*. A copy is available on Canvas.

Code of Classroom Conduct: Because this is an experiential learning class modeled on professional investment management as practiced, students are expected to act as professionals in the classroom. Please refrain from eating during class and be courteous with your attention to the presenter, whether a student or an outside speaker. Because the pitches include a spreadsheet, I permit laptops to be open during stock pitches. Laptop usage during lectures by guest speakers will be determined on a case-by-case basis. However, unrelated uses of the laptop such as surfing the web and reading/responding to emails are inappropriate. These requirements are consistent with the *Kellogg Code of Classroom Etiquette*.

Plagiarism Policy: All students must agree to abide by the *Practicum Plagiarism Policy*. A copy is available on Canvas.” Deliberate or “accidental” plagiarism will not be tolerated in AMP. Direct quotations as well as paraphrases of others’ work must be cited properly and direct quotes must be enclosed in quotation marks.

Pre-class dinners: On dates when there is a visiting practitioner there is usually a pre-class dinner with the visiting speaker from 5:00 pm – 6:25 PM for a subset of the class. We have two dinners scheduled for the spring quarter. For each speaker, up to 10 students may attend the dinner. Dinner is optional and attending dinners has no effect on the course grade. However, if you sign up for a dinner, you must attend. Not attending after signing up will adversely affect your class participation grade and access to future speaker dinners.

Office hours: If you would like to set up an appointment, please email me at Phillip-braun@kellogg.northwestern.edu to set up an appointment.

Course Structure:

Student Responsibilities:

Students in AMP have two major responsibilities throughout the three or four course sequence. One is to serve as an analyst during which time the student will prepare stock pitches and stock updates. The other is to serve as portfolio manager. During the AMP sequence, each student will prepare a minimum of two stock pitches, two stock updates, and one research report.

Analysts

- The schedule for the stock pitches and stock updates is provided separately. The requirements for the stock pitch are provided in **Attachment II**. Stock updates consist of a short report on stocks assigned to the analyst by the PMs and a 10 minute presentation. In the update, the analyst should assess whether the original thesis is still valid and whether the portfolios should increase or decrease their positions in that stock. In addition to the formal updates, analysts should keep PMs apprised of new developments for the stocks assigned to the analyst, such as upcoming or recent earnings releases, conference calls, and news. Stock assignments are listed on Canvas and the dates for formal updates are listed in the class schedule, below.

- Each analyst is assigned to an investment committee (provided separately). Analysts should attend the investment committee meetings and understand the rationale for the portfolio positions.

Portfolio Managers (Investment Committee)

- Portfolio managers are responsible for managing the fund's portfolio and ensuring that the portfolio is in compliance with the Investment Policy Statement (on Canvas). Managing the portfolio includes making decisions on whether to take a position in a security and, if so, how large a position, as well as when to increase, decrease, or close a position. Portfolio managers meet at least weekly to make such determinations.
- The main deliverable for Portfolio Managers in AMP is a research report during the final class. Requirements for the research report are provided in Attachment IV. **Please discuss your proposed topic with the instructor as early in the quarter as possible (no later than the 5th week of the quarter). All topics must be preapproved by the instructor.**
- Portfolio managers report on the fund's activities to the class on a weekly basis (see **Attachment I**).
- Portfolio managers request the execution of trades using the AMP Trade Order Request Form (on Canvas in spreadsheet form).

Each trade order request should be emailed to all AMP instructors and the fund's trader:

l-vincent@kellogg.northwestern.edu
r-korajczyk@kellogg.northwestern.edu
Phillip-Braun@kellogg.northwestern.edu

- One member of the investment committee for each fund will be designated the trader for the fund. **Please inform the instructors which student has been so designated.** An analyst for each fund should be designated as the trader's "shadow," to learn about trading from the trader.
- **Traders** are responsible for determining the optimal trading strategies in order to minimize the implementation shortfall due to order execution; advising portfolio managers on the appropriate execution strategies; and devising pre-trade estimates and post-trade evaluation of execution costs. Traders must be familiar with trading procedures and must maintain a cumulative record of trades as outlined in the trade data spreadsheet (on Canvas in spreadsheet form). Copies of the trade data spreadsheet must be emailed to the portfolio managers requesting the trade as well as to:

l-vincent@kellogg.northwestern.edu
r-korajczyk@kellogg.northwestern.edu
Phillip-Braun@kellogg.northwestern.edu

- **Traders** should read the "AMP Trading Tutorial." The Tutorial is on the course Canvas site.

Assigned dates for the stock pitches and updates are provided separately as part of the weekly course schedule. Analysts should discuss potential industries/sectors with their investment committee prior to choosing a stock. Prior to starting work on a stock pitch, the analyst must get permission from their PMs

and the instructor of the stock to be able to pitch the stock. Stocks should be pitched as either a long or short recommendation. General instructions for the stock pitches are provided in **Attachment II**.

The investment committee will schedule weekly (or more frequent) meetings of all investment committee members and analysts assigned to the portfolio. These portfolio team meetings are an important part of the AMP experience.

All students should read carefully and understand the Investment Policy Statement and the Operational Rules for the funds. These documents are posted on the course Canvas site.

Grading:

In addition to the primary deliverables for the class, another important part of the course is the evaluation of each stock pitch and research report. All students, whether portfolio managers or analysts, are responsible for providing feedback to the students making a pitch or presenting a research report. They are also responsible for providing an evaluation of guest lecturers.

Guest lecturers may also require graded assignments for class.

The specifics of the grade calculation for *AMP I* are as follow:

Portfolio Managers:

Research paper:	25%
Class participation:	15%
Written evaluations of stock pitches, research reports, and guest speakers:	20%
Portfolio updates:	30%
Peer review:	10%

Analysts:

Stock pitch:	35%
Class participation:	15%
Written evaluations of stock pitches, research reports, and guest speakers:	25%
Stock update:	15%
Peer review:	10%

The class participation component of the grade is based on contributions to the class discussion, including the question and answer period following each stock pitch, as well as class attendance (see above).

Online Evaluations: After each class, students should complete an online survey for the analyst presentations and the guest speakers. Students have four days to complete the survey. You will be asked to provide numerical and qualitative evaluations of the stock pitches and research reports that will be given to the student (without attribution). Thoughtful written comments are more valuable than the numerical score and the comments will receive all weight in the grade. Comments lacking substantive feedback (e.g., “good presentation!”) will receive the same grade as no comment. Comments must prove that a student has read both the stock pitch and studied the valuation model. Please focus the comment on actionable items. **The online evaluations are due at 9:00 AM the Monday following a stock pitch.**

Completion of year-long sequence (three quarters): the asset management practicum is structured as a required three course sequence (with an optional fourth quarter). Therefore, students are expected to complete the sequence. Any exceptions must be discussed with the instructor and will result in a one letter grade penalty.

Completion of co-requisites: If a student does not complete the course co-requisites by graduation, a one letter-grade reduction will be imposed for each course deficit. Students with scheduling issues should discuss options with the instructor. Please note: the co-requisites may be completed by graduation without penalty, however AMP grades will not be given until all co-requisites are completed. The instructors will provide students with written performance evaluations at the end of each quarter.

Course Grades upon completion of sequence. Because the first three quarters of the course are meant to be taken as an integrated whole, students will receive official course grades for all three quarters at the completion of the sequence. The lack of interim “grades” will not affect grade point averages or eligibility for any academic awards. Also refer to the FAQ on grading posted on Canvas.

Peer review: All students will complete peer reviews of their portfolio team, both portfolio managers and analysts. Forms for these reviews will be distributed at the end of the quarter.

Stock Pitches:

Students choose the company on which they make stock recommendations (long or short) from their preferred industry groups and in consultation with the portfolio managers and the instructor (two out of three portfolio teams must approve the name of the stock to be pitched). **Attachment II** provides guidelines and requirements for the stock pitches. In addition, all past pitches made to the Practicum will be posted on the Canvas site and students may refer to these for examples. The pitch report, including a spreadsheet valuation model, must be placed on the AMP I and IV Dropbox site by **9:00 AM on the Monday before the Wednesday presentation** (unless indicated otherwise on the schedule below). All students are expected to read the report and study the spreadsheet model before class. The report must contain all of the substantive information and analyses for the stock pitch. The second component of the analysis is a set of PowerPoint slides for presentation to the class. Because the students will have read the report before class, the purpose of the slides is not to educate the audience of potential investors but rather to emphasize the main points and the recommendations from the written report. The PowerPoint presentation must be placed on the AMP I and IV Dropbox site by **3 pm on the day of the presentation**.

The analysts will have a maximum of 5 minutes to make the pitch followed by a maximum of 10 minutes of questions from the class. The point of view in asking questions should be that of an investment committee analyzing a potential investment.

The stock pitches will be broadcast via Webinar to the AMP’s Board of Advisors and interested alumni who may ask questions of the presenter. Analysts should bring their pitches to class on a memory stick/flash drive because they must use the laptop computer attached to the Webinar system for the presentation.

Response to Comments and Questions:

Each analyst is encouraged to respond to questions and comments received from the class. Please email these to all class members.

Attachment I

Requirements for Weekly Portfolio Updates by Investment Managers

The three AMP investment committees should present weekly reports on the risk and performance of the four funds. The report is due each Wednesday the class meets. On classes where the portfolio team is presenting portfolio results, the report should include, at a minimum:

- A statement of the committee's chosen target asset allocation. This should include an analysis of cash versus equity, market capitalization of the fund's holdings, and selected sector exposures via ETFs.
- A report on the funds' Assets Under management (AUM) and the funds' profit and loss since the last Portfolio Update.
- An analysis of the fund's performance calendar year to date; calendar quarter to date; and any other period of your choice, using Barra's performance analyst (please refer to the research paper by Marwick, Shekleton, Stulberg, and Wong from Winter Quarter, 2010). In Performance Analyst the performance attribution is listed under Cumulative Executive Summary (Full Timespan). Include in the update the Cumulative Attribution Chart (under the "Total" tab). In addition, daily returns on the Funds and the benchmark can be found on the M: drive of on the AMP office machines in the folder Portfolios > Sample_Input_Files. The file name is Fund>Returns_yyyymmdd, where yyyymmdd = the end date of the sample period (yyyy=year, mm=month, dd=day). These are the files that need to be imported into Performance Analyst.
- An analysis of each position's contribution to the fund's performance. This can be obtained from Barra Aegis Performance Analyst (under Asset Contributions > Cumulative Contributions – Assets Held).
- A graph of the Risk Decomposition Chart from the MSCI Barra Aegis Portfolio Manager, as of the most recent available date.
- A graph of the Active Risk Index Exposures and Active Industry Exposures from the MSCI Barra Aegis Portfolio Manager, as of the most recent available date.
- A check of adherence to all of the fund's restriction as outlined in the current Investment Policy Statement. Position sizes are shown in the initial Performance Analyst window. Beta and tracking error (Active Risk) are shown in the Executive Summary window (hit F2). Use the BARRA forward-looking beta, called Predicted Beta, from BARRA Portfolio Manager.

On weeks where the portfolio team is not reporting results, the team's report should report performance attribution from Performance Analyst and show that the portfolio meets all requirements of the investment policy statement.

An electronic version of this report should be placed in the AMP I and IV Dropbox site by 3:00 PM on class days.

Attachment II

Stock Pitch Guidelines and Requirements

Analysts choose the company on which they make stock recommendations (long or short) after consultation with the three investment committees and the instructor on industries/sectors that are under-represented in the portfolio. Because we are making recommendations for investments, the goal is to choose a stock for which a **buy** or **sell** (short) recommendation can be made. Hold recommendations should be avoided.

A fundamental analysis should include, at a minimum:

- 1) An analysis of the firm's business and its industry, including its strategy and the competitive landscape
- 2) an analysis of the firm's financial condition including profitability, balance sheet, and
- 3) cash flow generation
- 4) a forecast of the firm's future performance structured as pro forma financial
- 5) statements with well-articulated assumptions about the key value drivers
- 6) a DCF valuation of the firm based on the financial projections
- 7) a target price or price range and a related target date for attaining that price
- 8) communication with the firm, or its suppliers, customers, and competitors

In addition the analyst should provide information as to how the stock was selected. If a screen or set of screens was used, the results of each of the screens should be provided.

The analyst should provide the investment committees with a downside price at which the analyst recommends the portfolio exit the position (long or short) if the thesis does not play out.

The stock pitch comprises two parts. The first is a written report with supporting exhibits, providing an in depth analysis of the company and the bases for the recommendation. Included in this written report, in excel format, must be a complete set of pro forma financial statements for the firm as well as a DCF valuation analysis. Additional analyses may be provided but the pro forma financial statements and DCF valuation analysis are required. The analyst should specify the assumptions behind the pro forma financial statements and provide both sensitivity analysis and scenario analysis.

Analysts provide either a Word or PDF document for the report and the pro forma financial statements in a separate Excel document. It is important that the pro forma financial statements be in excel format, not PDF, so students in the class can trace the analyses and even do their own sensitivity analysis if desired. To that end, the spreadsheets should be formatted so that they can be printed easily by the class members.

The report and spreadsheets **must** be placed on the AMP I and IV Dropbox site by **9 am on the Monday before the Wednesday presentation unless noted otherwise on the syllabus**. All students are expected to read the report and study the spreadsheet financials before class. The report must contain all of the substantive information and analyses for the stock pitch.

The second component of the analysis is a set of power point slides for presentation to the class. Because all students will have read the report before class, the purpose of the power point slides is not to educate the audience of potential investors but rather to emphasize the main points and the recommendations from the written report. The power point presentation must be placed on the AMP I and IV Dropbox site by **3 pm on the day of the presentation**.

The analyst will have a maximum of 5 minutes to make the pitch followed by a maximum of 10 minutes of questions from the class. The point of view in asking questions should be that of an investment committee analyzing the potential investment.

All students and faculty will provide a written evaluation of the stock pitch, assessing the quality of the written report and of the oral presentation. The key considerations are the quality and effectiveness of the stock pitch and whether the evaluator would support the recommendation made in the stock pitch for the AMP funds. The written evaluations consist of numerical scores for several portions of the evaluation and written comments to support those scores.

The stock pitches will be broadcast via WEBINAR to the AMP's Board of Advisors and interested alumni who may ask questions of the presenter. Analysts should bring their pitches to class on a memory stick/flash drive because they must use the laptop computer attached to the WEBINAR system for the presentation.

Attachment III

Updates on Portfolio Holdings – or How to “Follow” a Stock

Students have been assigned to “follow” stocks that are currently held by one or more funds but that were generally pitched by students who have graduated from Kellogg.

Analysts should work with the Portfolio Managers to determine which stock they will update and get permission from their PMs when they have chosen the stock.

Following the stock involves making recommendations to the investment committee about continuing to hold the stock, purchasing more of the stock, reducing the position, or closing out the position.

The assigned analyst should review the original stock pitch (generally posted on the AMP Canvas or Dropbox sites) as well as any updates to the pitch (also posted on the AMP Dropbox site) in order to understand the original investment thesis.

Updates on stocks are limited to 10 minutes, including Q&A.

At minimum, updates need to include the stock’s relative performance since its addition to the portfolio and analysis of the theses from the pitch and any previous updates.

Ideally, the original Excel valuation model should be used to conduct a revised valuation if necessary.

The analyst should keep abreast of new developments with respect to the stock that could affect the recommendation in the future—for example, earnings announcements, management changes, regulatory issues, etc. The analyst should communicate these updates via an email to the class, summarizing the recent development and providing any change in recommendation as a result. However, if there is a potentially important change, a short presentation (5 minutes) to the class is warranted.

Attachment IV

Research Reports

The portfolio managers will present the research reports during the last class of the quarter. Research reports can be written in groups of up to 3 students. They should address issues associated with managing a portfolio, other than pitching a stock. Research reports from prior quarters are posted on the course website and we strongly urge you to review those papers as they provide some excellent suggestions and implementable procedures for managing the AMP portfolios. They may also provide assistance in developing a topic for future research reports. In some instances, it may be possible to expand and extend a previous research report. Examples of topics: are Backtesting of Quantitative Overlay Strategies, Evaluation of Trading Execution, Optimal Asset Allocation, Performance Attribution, Use of Portfolio Optimization in Portfolio Construction, Evaluation of Position Exit Timing by AMP, Do AMP Analysts and/or PMs Exhibit Behavioral Biases?, Asset-Based Investing. The emphasis should be learning from data analyses.

Please make an appointment to discuss the topic and design of your research report with the instructor as soon as you have some thoughts and ideas about it, but no later than the end of the 3rd week of the quarter.

Presentations and Q&A should be approximately 45 minutes (e.g., 30 minutes for the presentation and 15 minutes for Q&A). The reports are due at 9:00 AM the Monday before the presentation class and should be uploaded to the AMP I and IV Dropbox site. Presentation slides should be uploaded by 3:00 PM the day of the presentation. Make sure that the presentation has a title page with your name and date on it.



Professors Robert Korajczyk, Linda Vincent, Phillip Braun
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Operational Rules

It is natural for those in asset management to focus on the financial risks associated with the investments made by the fund. There are many operational risks faced by asset management companies. We must minimize operational risks by adhering to strict operational rules.

- 1) All participants must abide by and sign the Practicum code of ethics.
- 2) Each Fund must adhere to the Investment Policy Statement for that Fund.
- 3) Only Securities/Strategies presented in class are eligible for inclusion in Funds (with exceptions stated in the investment policy statement).
- 4) Only designated student traders are authorized to trade assets for the fund. Trades should only be made during trading hours on the Exchange. Limit orders should be used rather than market orders to protect against trading errors.
- 5) When a fund team decides to make a trade in an asset, they should e-mail instructions to the trader and CC the course instructors. Instructions should include a specific description of the asset, the size (in shares) and direction (buy, sell, short, cover) of the trade, and an indication of urgency. The fund team must also make sure that sufficient funds are available to cover the trade, and that the trade does not cause the fund to be in violation of the investment policy statement. The fund team must also determine that the fund's positions will not trigger UBIT.
- 6) **Before** a short sale, the trader must locate the shares with the broker. **It is illegal to execute a short sale without locating shares.**
- 7) The trader is encouraged to have a second practicum participant confirm the accuracy of the trade before submitting it to the broker. Post execution, the trader must send a confirming e-mail to the fund team (and copy the course instructors) confirming the execution of the trade with amounts and transaction prices.
- 8) Traders should not override the trading limits in the trading software.
- 9) The trade and the fund team investment committee must both confirm that the trade is accurately posted by the broker by the morning after the trade.
- 10) If the trader is unable to trade the order, the trader or the fund team can ask the instructors to trade the order.

- 11) Fund teams must present a weekly report of fund valuation, risk, adherence to the fund's investment policy statement. If the fund is out of compliance (e.g., the fund's beta is less than 0.7 or greater than 1.3 or asset positions excess limits), the fund's investment committee must take appropriate steps within two days to return the fund to compliance.
- 12) The fund teams must keep a record of execution costs and analyst performance for periodic reporting purposes.



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Investment Policy Statement

The Asset Management Practicum portfolio consists of five sub-funds:

- The Crown Fund
- The Kenney Fund
- The Nash Fund
- The Commingled Fund
- The Simpson-Querrey Fund

No fund may use leverage.

The Crown, Kenney, and Commingled Funds:

The Crown, Kenney, and Commingled Funds are to be invested in equities traded in the United States, exchange traded funds (ETF), and cash reserves. Positions may be long or short and must be based on fundamental security analysis. The funds should have a net exposure (beta) to the S&P 500 between 0.7 and 1.3. The funds should be diversified to the extent that tracking error, relative to the S&P 500, should not exceed 5% per month.

All individual stock positions must be from the set of stocks pitched in class, in FINC 444, or at an Investment Management Club meeting. Existing positions can be adjusted at any time. A stock is eligible for inclusion as a new position in the portfolio for up to four weeks following the date of the pitch or of an in-class update. Stocks that have been pitched or updated in class during the preceding two academic quarters can become eligible following an email update to the class and instructors containing at least the following information: 1) a summary of the original investment thesis, target price, target date, and catalysts; 2) an analysis of important changes to the firm and the industry since the pitch or update; 3) the current thesis, target price, target date, and catalysts. Stocks that have not been pitched or updated in class in the last two quarters require a detailed update of the stock in class to re-qualify the stock for inclusion in the portfolio. Portfolio managers can take positions of up to 2% in stocks not yet pitched (not to exceed a total of 8% of the portfolio). If the stock is not pitched within 4 weeks, the position must be closed.

ETF positions are meant to control the overall market and style exposure of the funds. The following ETFs can be traded without prior approval: S&P Depository Receipts (SPY), Vanguard large/small capitalization, value/growth, and total market VIPERS (VV, VB, VUG, VTV, VTI). Other ETF positions must be approved by the instructors and may require a short presentation to the class. Only ETFs that are covered by Barra are eligible. A list of eligible ETFs is posted on the course website.

Quantitative Overlays: Up to 10% of the fund may be allocated to a particular quantitative strategy (up to 40% across strategies) after a presentation to the class (including past research reports) and with

permission of the instructors. Once the strategy is approved, stocks chosen by the strategy do not need to be pitched.

Position Limits: A long position in an individual security should not exceed 8% of the fund's market value. A short position in an individual security should not exceed 4% of the fund's market value. These limits do not apply to cash or securities that are, themselves, well-diversified, such as exchange traded funds linked to market indices. Total short positions should not exceed 30% of the fund's market value.

The fund's portfolio needs to be structured to avoid incurring unrelated business income tax (UBIT).

The Nash Fund:

The Nash Fund is to be invested in equities traded in the United States, exchange traded funds, and cash reserves. Positions must be long and based on fundamental security analysis. The fund should have a net exposure to the S&P 500 between 0.7 and 1.3. The fund should be diversified to the extent that tracking error, relative to the S&P 500, should not exceed 5% per month.

All individual stock positions must be from the set of stocks pitched in class, in FINC 444, or at an Investment Management Club meeting. Existing positions can be adjusted at any time. A stock is eligible for inclusion as a new position in the portfolio for up to four weeks following the date of the pitch or of an in-class update. Stocks that have been pitched or updated in class during the preceding two academic quarters can become eligible following an email update to the class and instructors containing at least the following information: 1) a summary of the original investment thesis, target price, target date, and catalysts; 2) an analysis of important changes to the firm and the industry since the pitch or update; 3) the current thesis, target price, target date, and catalysts. Stocks that have not been pitched or updated in class in the last two quarters require a detailed update of the stock in class to re-qualify the stock for inclusion in the portfolio. **Portfolio managers can take positions of up to 2% in stocks not yet pitched (not to exceed a total of 8% of the portfolio). If the stock is not pitched within 4 weeks, the position must be closed.**

ETF positions are meant to control the overall market and style exposure of the funds. The following ETFs can be traded without prior approval: S&P Depository Receipts (SPY), Vanguard large/small capitalization, value/growth, and total market VIPERS (VV, VB, VUG, VTV, VTI). Other ETF positions must be approved by the instructors and may require a short presentation to the class. Only ETFs that are covered by Barra are eligible. A list of eligible ETFs is posted on the course website.

Position Limits: A position in an individual security should not exceed 8% of the fund's market value. These limits do not apply to cash or securities that are, themselves, well-diversified, such as exchange traded funds linked to market indices.

The fund's portfolios need to be structured to avoid incurring unrelated business income tax (UBIT).

The Simpson-Querrey Fund:

The Simpson-Querrey Fund is to be invested in individual equities traded in the United States. Positions must be long and based on fundamental security analysis. The portfolio should be a concentrated portfolio with positions in at least 5, and no more than 8, stocks. Cash positions should not exceed 5% of the portfolio. Managers are encouraged to take a long-term focus. All

individual stock positions must be from the set of stocks pitched in class, in FINC 444, or at an Investment Management Club meeting. Existing positions can be adjusted at any time. A stock is eligible for inclusion as a new position in the portfolio for up to four weeks following the date of the pitch or of an in-class update. Stocks that have been pitched or updated in class during the preceding two academic quarters can become eligible following an email update to the class and instructors containing at least the following information: 1) a summary of the original investment thesis, target price, target date, and catalysts; 2) an analysis of important changes to the firm and the industry since the pitch or update; 3) the current thesis, target price, target date, and catalysts. Stocks that have not been pitched or updated in class in the last two quarters require a detailed update of the stock in class to re-qualify the stock for inclusion in the portfolio.

Position Limits: A position in an individual security should not exceed 25% of the fund's market value.

The fund's portfolios need to be structured to avoid incurring unrelated business income tax (UBIT).