

THIS PUBLIC VERSION OF THE SYLLABUS INCLUDES A COMPREHENSIVE COURSE OUTLINE. STUDENTS IN THE COURSE RECEIVE A SYLLABUS WITH FURTHER DETAILS ABOUT CLASS MEETINGS, ASSIGNMENTS, PROJECTS, OUTSIDE SPEAKERS, AND TEACHING ASSISTANTS.

Course Description

The course undertakes a rigorous study of concepts and evidence relevant to investment management. Topics include asset allocation, diversification, long-short strategies, factor models, long-horizon investing, portfolio optimization, sustainable (ESG) investing, hedge funds, mutual funds, behavioral finance, performance evaluation, trading, machine learning, and simulation. The course deals very little with security valuation, i.e., “equity research” and its associated “discretionary” investing.

The prerequisites for are FNCE 1000 and STAT 1010–1020. (STAT 1020 may be taken concurrently with this course). Given that investment management requires one to analyze and deal effectively with uncertainty, a good grounding in statistics is essential, and familiarity with statistics should extend through multiple regression, covariance, and correlation.

Required materials

1. ***Investments***, by Zvi Bodie, Alex Kane, and Alan J. Marcus (13th edition), McGraw-Hill. There are various options to acquire this book: An electronic version is available for purchase (\$94) or rent (\$59) at the McGraw-Hill [website](#). The university bookstore sells the loose-leaf for \$86 (ISBN #: 9781264934461) or rents the hardback for \$70 (ISBN: 9781264412662). Solutions to assigned chapter-end problems are available to registered students via the course Canvas site.
2. ***Efficiently Inefficient***, by Lasse Heje Pedersen, Princeton University Press. Electronic versions of the book are available, and the university bookstore is selling print copies. Downloadable exercises are [here](#). Solutions as well as the supplementary exercise materials are available to registered students via the course Canvas site.
3. **Case packet** available electronically to **purchase from Study.Net via Canvas**.

Other materials of interest

1. Subscribe free via Penn Libraries
 - [Wall Street Journal](#)
 - [New York Times](#)
 - [Financial Times](#)
2. [Investment-management periodicals accessible via Penn Libraries](#)
 - (especially ***Pensions & Investments***)
3. ***Stocks for the Long Run*** by Jeremy J. Siegel (6th edition).

Class attendance

I do not formally tally missed classes, but I do grade class participation (below). In the first class, students should select seats to which they are assigned throughout the semester, and I ask that name placards be displayed. **Class recording is not available in this course, for any reason.**

Grading

Course grades will be based on two exams, four project write-ups, quizzes in many weeks, and class participation:

	<u>Percent</u>
Exam 1 (Feb. 26)	25
Exam 2 (Apr. 29)	25
Project write-ups	20
Weekly quizzes	20
Class participation	10
Total	<hr/> 100

Team sign up

At the beginning of the course, students may form teams of up to four members to collaborate on the required project write-ups. Students may also find these teams useful as study groups in working through course content and preparing for class discussions. Members of a team may be registered for different sections of the course. Team sign up is via Canvas. (Non-Wharton students who are enrolled in the course but do not yet have a Wharton computing account, required for Canvas, can establish one [here](#).) Given health and safety considerations, I will allow individual students to submit project write-ups and will not require they join a team, but team membership is strongly encouraged, and I am happy to assist in team formation.

Projects

There are four projects, with due dates on **February 5, February 21, March 27, and May 1**. Students working in a team on a project should submit one write-up per team, with all team members' names displayed on the first page. Write-ups should be submitted on Canvas by **9:00 AM on the due date** to avoid lateness penalties. Project assignments are posted on Canvas.

Case discussions

A significant portion of the class participation grade is based on case discussions. I may cold-call occasionally but generally expect students to volunteer comments. I will post on Canvas a few pertinent questions about the case. These questions are not intended to be a comprehensive summary of the issues that could arise during the case discussion, but I hope they will be useful when thinking about the case and in stimulating discussion. Written answers are not submitted.

Quizzes

I will post in many weeks (nine or ten, tentatively) an open-book quiz to be completed on Canvas by midnight Friday (Eastern time) of that week. Each quiz is taken in a 20-minute window commencing at any desired time after I post the quiz earlier in the week, typically Wednesday afternoon. (I will send an email notification of each quiz posting.)

Exams

There will be two 90-minute exams. Exam 2 is not a final exam, as it is confined to topics covered after Exam 1. Much of the course knowledge is cumulative, however, such that fully understanding issues addressed later in the course requires mastery of earlier material.

Both exams will be held at the regular time and classroom for each section. The exams are closed book, but you may bring one 8½ × 11 inch “cheat sheet” (two-sided).

For either exam, a make-up is allowed only for serious illness or emergencies and will be administered during the finance department’s designated date for make-up exams, which generally occurs early in the fall semester.

Academic integrity

You are not allowed to collaborate on the weekly quizzes.

You are not allowed to use generative AI (e.g., tools like ChatGPT) in completing any submitted work, including quizzes and projects. You are permitted to use such tools for general enrichment/study of course-related topics, subject to the caveat that the information provided is often incorrect.

Nonadherence to the above policies will be considered violations of Penn’s Code of Academic Integrity, and I will report suspected violations to the Center for Community Standards and Accountability. Please contact me if you have questions about this policy.

Ed Discussion

This is an online discussion platform for the course, accessible via Canvas. Students can post questions to which the instructor, TAs, and students can respond. For questions about course material, please use this platform, rather than emailing the instructor or a TA, so that other students can benefit and questions are not repeated. Anonymous posting is discouraged but allowed if a student is otherwise uncomfortable asking a question. Be advised that anonymous posting conceals identify only from other students, not from the instructor.

My availability

I welcome students to see me outside of class to discuss any aspect of the course. My scheduled office hours are Mondays, 3:30-5:00pm, SHDH 3251. My e-mail is stambaugh@wharton.upenn.edu.

COURSE OUTLINE

- I. Foundations: Portfolio return, risk, asset allocation, performance evaluation
 - a. Returns and risk
 - b. Stock-cash positions; using return swaps and futures
 - c. Beta; hedging
 - d. Alpha; long-short investing; margin and leverage
 - e. Portfolio diversification, time-varying volatility
 - f. Portfolio opportunities and selection
 - g. Portfolio optimization and asset allocation
 - h. Refining optimization: Black-Litterman model
 - i. Performance evaluation and attribution

*** Exam 1 ***

- II. Investment strategies: Exploiting potential sources of performance
 - a. Multiple return factors; size and value
 - b. Behavioral approaches
 - c. Information ratio and active allocation; long-short quantitative strategies
 - d. Implementing strategies; trading costs; combining value and momentum
 - e. Hedge funds; liquidity; arbitrage
 - f. Carry trades
 - g. Mutual funds – performance and scale
 - h. Sustainable (ESG) investing
 - i. Machine learning
- III. Long-run investment issues
 - a. Equity premium
 - b. Shortfall risk and options/insurance
 - c. Mean reversion and the life cycle
 - d. Pension funds

*** Exam 2 ***

- IV. Active management's past and future