

Fin 9793
Advanced Investment Analysis

Contact Information

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Course Description

In this course, we examine financial tools that portfolio managers use to make informed investment decisions in depth. We begin with the basics of debt securities and markets: bond prices and yields, and the term structure of interest rates. We build on these to analyze bond characteristics, ratings, default risk and sensitivity of bond prices to interest rate changes, and yield curves. These lay the foundation for the formation of active and passive bond portfolios. Next, we analyze equity securities in the context of investment management and analyze macroeconomic factors that affect security prices and understand the roles of fiscal and monetary policy in influencing the economy. We then cover various fundamental techniques of equity valuation, including the dividend discount model, comparable trading and acquisition multiples methods and Discounted Cash Flow model, as well the use of financial statements to perform ratio analysis. Last, we analyze portfolio management in practice and investigate portfolio performance evaluation, hedge funds and theories and evidence on active portfolio management. Students study theories and analysis of active portfolio management and develop a thorough understanding of the various hedge fund strategies and fund styles.

3 credits, 3 hours

Prerequisites: FIN 9773 or FIN 9783

Course Learning Goals

Upon completing this course, students should be able to:

- Explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.
- Articulate the various theories of the term structure of interest rates and explain the differences among them.
- Learn both the primary and secondary equity markets
- Value equity for investment purposes using several valuation approaches models and different

cash flows.

- Explain how options can be used for hedging strategies
- Apply theories and implement active portfolio management.
- Master the characteristics of hedge funds and their roles in portfolio management.
- Perform measurements of portfolio performance and interpret the results.
- Explain the implications of the many ratios for equity securities.

Course Resources and Materials

Required Textbook (McGH)

Investments, McGraw-Hill, Bodie, Kane, and Marcus, 11th edition, 2018. (ISBN: 978-1-259-27717-7)

Optional Textbook (CD)

Investments, Finance and Credit, Cognella, C. Droussiotis, 1st edition, 2019. (ISBN: 978-1-516549122). To purchase the professor's textbook go to link: [An Analytical Approach to Investments, Finance, and Credit \(cognella.com\)](http://AnAnalyticalApproachtoInvestments,Finance,andCredit(cognella.com))

Additional readings may be downloaded from www.ProfessorDrou.com or via Blackboard.

Websites

www.ProfessorDrou.com under "Executive MS in Finance".

www.finance.yahoo.com and www.Bloomberg.com for downloading financial information.

Course Outline and Schedule

1. Pre-Weekend I

Required pre-course reading from the Bodie, Kane, and Marcus textbook:

Chapter 14 Bond Prices and Yields

Chapter 15 The Term Structure of Interest Rates

Students are required to complete a homework assignment consisting of questions and problems for Chapters 14 and 15 on McGraw-Hill CONNECT by 8:30 am, first day of class (Weekend I, Sunday). Instructions for registering on CONNECT are on Blackboard.

The link: <https://connect.mheducation.com/class/d-chris-spring-2022-ms-fin9793>

Chapter 14 Homework: 16 Questions

Chapter 15 Homework: 6 Questions

The instructor maintains the course website at www.ProfessorDrou.com. This website will make available all the of the course's lectures notes (Lectures 1-9), spreadsheets (Bond, Equity, Options, Valuations, Financial Analysis and Ratios, Portfolio Analysis), project assignment template (Portfolio),

reading material (relevant articles, concepts), formula sheets (Bond, Equity, Financial Ratios, and portfolio measurement ratios), and calendar with due dates.

2. Weekend I, Saturday

AM	<p>Lecture 0: Introduction to Investment Analysis</p> <p>Lecture 1: Review and discuss McG-H Chapters 14 and 15 on bond pricing, yields, and the term structure of interest rates <i>then go through</i> Chapter 16 - Managing Bond Portfolios (<i>CD Chapter 11</i>)</p> <p>Preview of the Course Final Project: Introducing the portfolio Excel template and concepts to set-up the students' final Excel project (see description of final project)</p> <p>Workshop 1: Each student will work on applying bond analysis using Excel including bond prices, YTM, YTC, and YTW, as well as calculate duration and convexity of individual and portfolio of corporate bonds (Investment Grade and High Yield bonds). The analysis will include the following:</p> <ul style="list-style-type: none"> • Macaulay Duration, Modified Duration for individual bonds and for bond portfolios • Convexity of individual bonds and of bond portfolios
PM	<p>Lecture 2: Modern Portfolio Concepts (CD Chapters 1-4)</p> <p>Workshop 2: Each student will work on applying Modern Portfolio concepts including IRR, HPR, Beta, CAPM and how to achieve the Efficient Frontier through covariance and correlation. From portfolio efficiency to optimization (Sharpe Ratio) and introduce portfolio performance measurements such as Jensen's Alpha, Treynor and M square. – introducing the final project.</p>

3. Weekend I, Sunday

AM	<p>Lecture 3: Equity Markets (secondary and primary) & Basic valuation (<i>CD Chapter 5, 10</i>)</p> <p>Workshop 3: Introducing how a private and/or a public traded company can raise money from the equity markets. After the money is raised how these investors can trade these stocks through the exchange markets.</p> <p>.</p>
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PM	<p>Lecture 4: Basic Stock Options Concepts & Hedging Strategy (<i>CD Chapter 13</i>)</p> <p>Workshop 4: The Instructor will introduce the basic concepts of equity options and how can they be used for hedging strategies including protective puts, cover calls, collars, and spreads.</p> <p>Project Preview: Continue to set-up the portfolio Excel template and concepts to prepare for the students' final Excel projects.</p>
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4. Between Weekends I and II

Self-study and preparation for midterm exam on Chapters 14 – 19
Review class notes and concept checks covered in the class.
Review practice problems provided by instructor – Spreadsheets and lecture notes can be found at www.ProfessorDrou.com

Homework (Cash Flow)
Set-up your portfolio Excel spreadsheet – input section

5. Weekend II, Saturday

AM	<p>Lecture 5: Financial Statements and Ratio Analysis (<i>CD Chapters 15</i>)</p> <p>Workshop 5: The Instructor will provide 2-year income and balance sheet statements of specific companies and have each student build the cashflow statement and calculate financial ratios.</p> <p>Lecture 6: 8 Methods of Corporate Valuation (<i>CD Chapters 16,17</i>)</p> <p>Workshop 6: The Instructor will provide information on specific public and private companies including historical financials and each student will build a projection model to calculate the Enterprise and Equity Values of such companies using DCF analysis</p>
PM	<p>Review of Group Project and Project Presentation</p> <p>Lecture 7: Chapter 24 Portfolio Performance Evaluation (<i>CD Chapters 1-4</i>)</p> <p>Workshop 7: Begin to build a portfolio of stocks and bonds on Excel, applying basic risk and return analysis, applying diversification factors and calculating Efficient and Optimum Frontiers including Sharpe Ratio, Treynor Ratio, Benchmarking, and other portfolio performance measurements. Work on final project incorporating such measurements.</p>

6. Weekend II, Sunday

AM	Midterm exam (McG-H Chapters 14 – 19, <i>CD Chapters 5,6, 10, 11, 15</i>)
PM	Project Preview: Preparation for Final Excel Project.

7. Final MS Excel Project

Construct a \$200,000 portfolio of stocks, corporate bonds and cash in MS Excel using the following information:

1. Initial Capital \$100,000 (Equity)
2. Obtain an additional \$100,000 loan for 5.0% interest per annum.
3. Starting Date (June 1, 2021) – Closing stock and bond prices for that day (Basically going back and getting the historical prices)
4. Value Date (Jan 3, 2022)
5. Maintain Diversification discipline*
6. Always maintain at least 10% Cash. Cash interest income runs at 1.5% per annum (Use 1.5% rate as the Risk-Free rate)
7. Trading stocks or bonds at least 5 times during this period (5 initial stock and bond positions need to be replaced during this period)
8. Assume no trading costs or any additional expenses (except interest on the margin loan)

Your spreadsheet should include the following:

1. Initial transaction sources and uses (June 1, 2021)
2. List of stocks and corporate bonds
3. Business Description and Industry categorization for each stock and S&P and Moody's rating of each bond
4. Monthly cash flow which will include any dividends, coupon payments, gains and losses on trades, interest payments, interest income of cash balance.
5. Overall monthly performance (including a graph)
6. S&P 500 Index on June 1, Jul 1, Aug 2, Sep 1, Oct 1, Nov 1, Dec 1, 2021, and Jan 3, 2022 (using closing prices) to compare to your stock portfolio.

At Value Date calculate the following:

1. Total Portfolio HPR for stock, bond, and combined portfolio.
2. Bond portfolio duration and convexity
3. Covariance and correlation of bond and stock portfolios
4. Sharpe Ratios, Treynor and Jensen measurement for equity portfolio
5. Sharpe Ratios, standard deviation, HPR and average monthly returns for entire portfolio.
6. Portfolio performance as compared (including a graph) to S&P 500 index during this period – (Beta Coefficient calculation, regression analysis between portfolio and S&P 500).
7. Other ratios to be included including CAPM, Jensen's Alpha, Treynor Measure, and M squared ratio.

*Diversification Discipline:

- No less than 10 stocks in the portfolio at all times
- Each stock value cannot represent more than 20% of the total portfolio.
- Each industry value cannot represent more than 25% of the total portfolio.
- Across 8 different industry sectors and one of the industry sectors should have at least 2 companies.

Project is due 10 days after Sunday II. Please upload your report to the professor's DropBox (www.ProfessorDrou.com) under "Baruch Executive MS Page"

Course Policies

Attendance. Class attendance is compulsory. Students who miss more than 25% of the scheduled hours may be required to retake the course.

Class Participation. Student participation is an important component of learning in the program and includes the following:

- Active participation in-class discussions
- Active participation in group assignments

Constructive student participation via answers, questions, attentiveness, and attendance will enrich everyone's learning experience.

Practice Problems. The students are expected to practice solving problems before and in class. These problems will not be collected or graded. Solutions to the problems will be posted on the course Blackboard site and discussed during class. However, the students are strongly urged to solve the problems on their own. The only way to master the necessary skills in this course is through practice.

Homework (CONNECT problems). The homework will be graded and constitutes 10% of your course grade.

Midterm Exam. This is a closed book exam and the only items that students may use during the exam are a financial calculator and a note sheet (8.5 x 11", both sides, any notes you want).

If you miss an exam for a satisfactory reason (the only satisfactory reason is when a medical exigency comes up), you may be able to take a make-up exam on producing appropriate documentation to the satisfaction of the instructor.

Please turn off your cell phone during the exam.

Academic Integrity. The Office of Executive Programs fully supports Baruch College's policy on Academic Honesty, which states, in part:

Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism, and collusion in dishonest acts undermine the college's educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned.

Additional information can be found [here](#).

Any academic dishonesty will be reflected in the grade for an exam, quiz, or assignment and in the course as well. Academic sanctions in this class will range from an F on the assignment to an F in this course. Students should also understand that a report of academic dishonesty will be sent to the Dean of Students' office and become a permanent part of the student's file.

Students with Disabilities and Other Special Needs. Students with disabilities are supported in their

academic studies by Baruch College’s Office of Student Disability Services. According to their Mission Statement:

Student Disability Services provides appropriate accommodations to students with disabilities to promote equal access to the college’s programs and services. We advocate for and create an accessible college environment for students with disabilities, we support faculty in the classroom, and we provide assistive technology that empowers students to self-advocate and develop the skills necessary to succeed academically.

Students who feel that they may need a reasonable accommodation based on a disability should contact the staff at Student Disability Services, Newman Vertical Campus, Room 2-271, or by phone at (646) 312-4590. Additional information is available on their website [here](#).

Grades and Grading

Basis of Grading		
Component	Weight	Type of Work
CONNECT problems	10%	Individual
Class participation	10%	Individual
Midterm exam	40%	Individual
Final Project	40%	Team
Total	100%	

Baruch College Grading Scale for Graduate Courses		
A	93 - 100%	Excellent performance
A-	90 - 92.9%	
B+	87.1 - 89.9%	Satisfactory performance
B	83 - 87%	
B-	80 - 82.9%	Less than satisfactory performance
C+	77.1 - 79.9%	
C	73 - 77%	Poor performance
C-	70 - 72.9%	
F		Failure

Contact and Class Hour Structures

Contact Hours			
Learning Period		Contact Hours or e-Learning Equivalent	Time
1	Pre-Weekend I	4.0	
2	Saturday I	8.1	8:30 am – 5:15 pm with 1 hour lunch break
3	Sunday I	8.1	8:30 am – 5:15 pm with 1 hour lunch break
4	Between the Weekends	3.2	
5	Saturday II	8.1	8:30 am – 5:15 pm with 1 hour lunch break
6	Sunday II	8.1	8:30 am – 5:15 pm with 1 hour lunch break
7	Post-weekend II	5.4	
Total		45.0	

Class Hours for Full-day Classes			
Morning		Afternoon	
7:45 am – 8:30 am	Breakfast	12:30 pm – 1:30 pm	Lunch
8.30 am – 9:45 am	Class	1:30 pm – 2:30 pm	Class
9:45 am – 10:00 am	Break	2:30 pm – 2:45 pm	Break
10:00 am – 11:00 am	Class	2:45 pm – 4:00 pm	Class
11:00 am – 11:15 am	Break	4:00 pm – 4:15 pm	Break
11:15 am – 12:30 pm	Class	4:15 pm – 5:15 pm	Class

Learning Goals and Assessments

EMSF Program Learning Goals	
Executive Leadership	Executive students will develop a strategic and analytical mindset that prepares them to guide their organizations in the face of innovation and disruptive changes in the business and social environments.
Financial Reasoning Skills and Knowledge	Executive students will gain knowledge and develop analytical skills needed to estimate the values of projects, companies, financial securities, and derivatives; to evaluate the validity of these estimates; and to formulate and implement strategies based on them.
Executive Communication	Executive students will be effective, persuasive (1) oral and (2) written communicators of financial data and concepts, and will be able to convey complex financial valuations, securities, and decision-making tools that lead to commitment and successful action.
Global Awareness	Executive students will gain knowledge of differences among global businesses and institutions in their financial practice and decision making, and understand how to formulate, design, and build international strategies, as well as understand how the strategies are implemented, to benefit their organizations.
Ethical and Social Awareness	Executive students will be aware of ethical issues in finance in particular and business in general and be able to demonstrate their ability to identify ethical conflicts in financial matters and either resolve or avoid them. They will be able to do so in ways that reflect financial as well as non-financial goals, such as corporate social responsibility, sustainability, and diversity.

Assurance of Learning				
EMSF Program Learning Goals	Significant Part of Course	Moderate Part of Course	Minimal Part of Course	Not Part of Course
Executive Leadership		X		
Financial Reasoning Skills and Knowledge	X			
Executive Communication		X		
Global Awareness			X	
Ethical and Social Awareness			X	

Assignment Mapping		
Assignments	Course Learning Goals	EMSF Program Learning Goals
CONNECT problems	<p>Explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.</p> <p>Value equity for investment purposes using several valuation approaches models and different cash flows.</p> <p>Perform measurements of portfolio performance and interpret the results.</p>	<p>Financial Reasoning Skills and Knowledge</p> <p>Executive Communication</p>
Excel Workshops	<p>Explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.</p> <p>Articulate the various theories of the term structure of interest rates and explain the differences among them.</p> <p>Value equity for investment purposes using several valuation approaches models and different cash flows.</p> <p>Explain the implications of the many ratios for equity securities.</p> <p>Perform measurements of portfolio performance and interpret the results.</p>	<p>Financial Reasoning Skills and Knowledge</p> <p>Executive Communication</p>
Class participation	<p>Explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.</p> <p>Articulate the various theories of the term structure of interest rates and explain the differences among them.</p>	<p>Financial Reasoning Skills and Knowledge</p> <p>Executive Communication</p>

	<p>Analyze the impact of the macro-economy on investments.</p> <p>Value equity for investment purposes using several valuation approaches models and different cash flows.</p> <p>Explain the implications of the many ratios for equity securities.</p> <p>Apply theories and implement active portfolio management.</p> <p>Master the characteristics of hedge funds and their roles in portfolio management.</p> <p>Perform measurements of portfolio performance and interpret the results.</p>	
Midterm exam	<p>Explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.</p> <p>Articulate the various theories of the term structure of interest rates and explain the differences among them.</p> <p>Analyze the impact of the macro-economy on investments.</p> <p>Value equity for investment purposes using several valuation approaches models and different cash flows.</p> <p>Explain the implications of the many ratios for equity securities.</p>	<p>Financial Reasoning Skills and Knowledge</p> <p>Executive Communication</p>
Final Project	<p>Explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.</p> <p>Articulate the various theories of the term structure of interest rates and explain the differences among them.</p> <p>Analyze the impact of the macro-economy on investments.</p> <p>Value equity for investment purposes using several valuation approaches models and different cash flows.</p> <p>Explain the implications of the many ratios for equity securities.</p> <p>Apply theories and implement active portfolio management.</p> <p>Master the characteristics of hedge funds and their roles in portfolio management.</p> <p>Perform measurements of portfolio performance and interpret the results.</p>	<p>Executive Leadership</p> <p>Financial Reasoning Skills and Knowledge</p> <p>Executive Communication</p> <p>Global Awareness</p> <p>Ethical and Social Awareness</p>

Confidential Team Evaluation Report

Each member of your team will indicate how the others in your group contributed to developing, writing, and presenting your team’s project.

For columns (1) through (4), assign a percentage so that the percentages in that column add up to 100%. For example, in Column (1), if there were four members in your group and each contributed equally, then each member would receive a percentage of 25%. If, however, one person did most of the work, the percentages might be 76%, 8%, 8%, and 8%.

In Column (5), add the percentages in that particular row. For example, if you give a particular team member the percentages of 25% in each Column (1) through (4), then the value for Column (5) is 100%.

This evaluation is confidential and will not be shown to your teammates. Please be sure to include yourself!

Name of Team Member	Attended team meetings by phone, email, or in person? (1)	Helped to develop the idea? (2)	Contributed to the written background report? (3)	Contributed to the in-class presentation? (4)	Overall contribution (Add the percentages in this row) (5)
Your name:					
Total	100%	100%	100%	100%	---