

FIN 9793 ADVANCED INVESTMENT ANALYSIS
SYLLABUS JANUARY 2020

Summary	
Course number	FIN 9793
Course title	Advanced Investment Analysis
Course description	This course provides an intensive analysis of several advanced topics in investments. It covers investment valuation and analysis in some depth, with special emphasis on relevant cash flows, risk analysis, and valuation approaches. It covers investment management of stock and bond portfolios, performance measurement, and evaluation. Special topics include hedge fund strategies, management and evaluation, introduction to financial risk management and the development and uses of financial derivatives and securitization.
Course type	Advanced
Credits	3
Total no. of hours	45
Cohort	EMSF 23
Instructor	Professor Christakis (Chris) Droussiotis Text/Voice (908) 930-4725 christakis.droussiotis@baruch.cuny.edu
EMSF Prerequisites	FIN 9771, FIN 9772, FIN 9773
Assumed knowledge	Knowledge of introductory finance, statistics, basic algebra, and calculus
Assumed ability	Access to a computer and the Internet, and the ability to use general productivity software such as Microsoft Word and Excel. Familiarity with a financial calculator is also essential.
Notice:	This course syllabus is subject to change. Check for updates on the instructor's web page at www.ProfessorDrou.com

About This Course	
<p>In this course we take an in-depth look at the relationship between the risk and the return of investments. The aim is to provide students with financial tools that help portfolio managers analyze data to make informed investment decisions. Modern portfolio theory and diversification of investments form the foundation of this course. Risk analysis of portfolios created by allocating capital between risky and risk-free assets offers an insight into portfolio management. At the conclusion of the course, students will have a sound foundational and functional knowledge of the different types of investments and risks associated with them, and the implications of portfolio diversification in practice and theory.</p> <p>The three main topics of the course are:</p> <p>Debt Markets. In the first part of this course we explore bond prices and yields, the term structure of interest rates, and management of bond portfolios. This analysis adds to students' knowledge of bonds acquired in corporate finance.</p> <p>Securities Analysis. The second part is an in-depth analysis of equity securities used in the investments' arena. Students will be exposed to macroeconomic and industry analysis, several equity valuation models, and a thorough understanding of the role of financial statement analysis in investments analysis.</p> <p>Applied Portfolio Management. The third part focuses on applied portfolio management. We will investigate portfolio performance evaluation, hedge funds and the theory of active portfolio management.</p>	

Course Learning Goals	
Fixed Income Securities: Pricing and Portfolio Management	Students will analyze bond characteristics, ratings, default risk and sensitivity of bond prices to interest rate changes, yield curves, and construct active and passive bond portfolios.
Equity Valuation Models	Students will be introduced to the macroeconomic factors that affect security prices and understand the roles of fiscal and monetary policy in influencing the economy. They will learn various fundamental techniques to value equity using the dividend discount model, comparable trading and acquisition multiples methods and Discounted Cash Flow model, as well use financial statements to perform ratio analysis.
Active Portfolio Management	Student will be introduced to the theory of active portfolio management and develop a thorough understanding of the various hedge fund strategies and fund styles. Students will also understand modern portfolio strategies.

Specific Course Learning Outcomes	
1	Students will be able to explain the determinants of bond prices and bond yields, and the relationships between bond prices and yields.
2	Students will be able to articulate the various theories of the term structure of interest rates, and to explain the differences among them.
3	Students will be able to analyze the impact of the economy on investments.
4	Students will be able to use valuation models and different cash flows to value equity for investment purposes.
5	Students will recognize the implications of the many ratios for the viability of equity securities.
6	Students will apply theories and implementation of active portfolio management.
7	Students will master the characteristics of hedge funds and their roles in portfolio management.
8	Students will be able to perform measurements of portfolio performance measurement and interpret the results.

EMSF Program Learning Goals	
Financial reasoning skills	Students will develop the skills needed to identify the risk and return relationship of investments, formulate portfolio diversification strategies to manage risk, and utilize financial derivatives to mitigate risk.
Communication	Students will be effective oral and written communicators of financial data and concepts, and will be able to convey complex financial valuations, securities, and decision-making tools to others in the organization in clear, convincing ways.
Leadership	Students will be able to originate and implement financial strategies that create value for their firms or investment portfolios.
Global awareness	Students will be able to utilize and apply their understanding of differences among global businesses and institutions in their financial practice and decision making.

Ethical awareness	Students will be aware of ethical issues in finance and be able to demonstrate their ability to identify ethical conflicts in financial matters and either resolve or avoid them.
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Course Schedule

Period or Day	Contact Hours or e-Learning Equivalent	Time
1	Pre-Weekend I	4.0
2	Saturday I	8.1
3	Sunday I	8.1
4	Between the Weekends	3.2
5	Saturday II	8.1
6	Sunday II	8.1
7	Post-weekend II	5.4
	Total	45.0

Class Schedule for Full-day Classes

Class 1	8:30 am	9:45 am
Break	9:45 am	10:00 am
Class 2	10:00 am	11:00 am
Break	11:00 am	11:15 am
Class 3	11:15 am	12:30 pm
Lunch	12:30 pm	1:30 pm
Class 4	1:30 pm	2:45 pm
Break	2:30 pm	2.45 pm
Class 5	2:45 pm	4:00 pm
Break	4:00 pm	4:15 pm
Class 6	4:15pm	5:15 pm

Course Outline

1. Pre-weekend I

Required pre-course reading from the Bodie, Kane, & 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 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-ms-executive-winter-2020>

- Chapter 14: Connect Chapter 14 – Homework: 5 Conceptual Questions
- Chapter 14: Connect Chapter 14 – Homework: 19 Questions
- Chapter 15: Connect Chapter 15 – Homework: 26 Questions

The instructor maintains the course website at www.ProfessorDrou.com He is in the process of uploading all the lectures notes (Lectures 1-9), spreadsheets (Bond, Equity Valuations, Financial Analysis & 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

- **Lecture 1 (Review):** Review and discuss Chapters 14 and 15 on bond pricing and yields and the term structure of interest rates
- **Lecture 2:** Chapter 16 – Managing Bond Portfolios
- **Final Project Preview:** Introducing the portfolio Excel template and concepts to set-up the students' final Excel project (see description of final project)

PM	<ul style="list-style-type: none"> • <u>Workshop 1:</u> 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: <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 • <u>Lecture 3:</u> Chapter 17 – Macroeconomic and Industry Analysis
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3. Weekend I, Sunday	
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AM	<ul style="list-style-type: none"> • <u>Lecture 4:</u> Chapter 18 – Equity Valuation Models • <u>Workshop 2:</u> 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.
PM	<ul style="list-style-type: none"> • <u>Lecture 5:</u> Chapter 19 – Financial Statement Analysis • <u>Workshop 3:</u> The Instructor will provide 2-year Income and Balance Sheet statements of specific companies and have each student build the Cash Flow Statement and calculate Financial Ratios. • <u>Lecture 6:</u> Chapter 24 – Portfolio Performance Evaluation • <u>Project Preview:</u> Continue to set-up the portfolio Excel template and concepts to set-up the students' final Excel project.

4. Between Weekends I and II	
	<p>Self-Study</p> <ul style="list-style-type: none"> • Homework (Cash Flow) • 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 • Set-up your portfolio Excel spreadsheet – input section
5. Weekend II, Saturday	
AM	<ul style="list-style-type: none"> • Review and discussion of Chapters 14 – 19 • Lecture 7: Chapter 24 – Portfolio Performance Evaluation
PM	<ul style="list-style-type: none"> • Workshop 4: Begin to build a portfolio of stocks and bonds portfolio on Excel. Applying basic risk and return analysis, applying diversifications 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. • Lecture 8: Chapter 26 – Hedge Funds
6. Weekend II, Sunday	
AM	<ul style="list-style-type: none"> • Midterm exam (Chapters 14 - 19) • Lecture 9: Chapter 27 – The Theory of Active Portfolio Management
PM	<ul style="list-style-type: none"> • Workshop 5: Optimal Asset Allocation and Portfolio Expected Performance including a spreadsheet that calculates covariance, correlation and Sharpe ratios. • Project Preview: Preparation for Final Excel Project.

7. Final Excel Project

Construct a \$200,000 portfolio of Stocks, Corporate Bonds and Cash (Excel) using the following information:

1. Initial Capital \$100,000 (Equity)
2. Obtain additional \$100,000 loan for 5.0% interest per annum.
3. Starting Date (June 3, 2019) – Closing stock and bond prices for that day (Basically going back and getting the historical prices)
4. Value Date (Jan 2, 2020)
5. Maintain Diversification discipline*
6. Always maintain at least 10% Cash at all times. Cash interest income 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)

You Spreadsheet should include the following:

1. Initial Transaction Sources and Uses (June 3, 2019)
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 3, Jul 1, Aug 5, Sep 2, Oct 1, Nov 1, Dec 2 2019 and Jan 2, 2020 (using closing) 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&P500 index during this period – (Beta Coefficient calculation, Regression Analysis between portfolio and S&P500).
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"

Resources	
Website	<p>www.ProfessorDrou.com under “Executive MS in Finance”.</p> <p>The links will also be provided via the Blackboard platform (http://www.baruch.cuny.edu/bctc/blackboard/login - click on Blackboard, and then find your course.</p> <p>www.finance.yahoo.com , www.Bloomberg.com for downloading financial information.</p>
Required Textbook	<i>Investments</i> , McGraw-Hill, Bodie, Kane, and Marcus, 11 th edition, 2018 – ISBN: 978-1-259-27717-7
Optional Textbook (helps with lectures and the project)	<i>An Analytical Approach to Investments, Finance and Credit</i> , C. Droussiotis, Preliminary Edition, Cognella Publishing, 2019- ISBN: 978-1-5165-4911-5.
Lecture notes and Cases	Course pack and www.ProfessorDrou.com
Additional readings	Downloadable from www.ProfessorDrou.com or via Blackboard

Assessment		
Component	Weight	Timing
CONNECT problems	10%	Pre-Weekend I
Class participation	10%	
Midterm exam	40%	Sunday II
Final Project	40%	Due date is 10 days after Sunday

Grades		
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

Course Structure and Policies	
Class sessions	<p>Class sessions combine</p> <ul style="list-style-type: none"> • Topic lectures • Exercise solving • In-class individual assignments • Workshops
Attendance	<ul style="list-style-type: none"> • Class attendance is compulsory • Students who miss more than 25% of the scheduled hours may be required to retake the course.
Student participation	<p>Student participation is an important component of learning in the program and includes the following:</p> <ul style="list-style-type: none"> • Participation in class discussions • Participation in group assignments
Homework	Read chapters before class and review material discussed in the class
Midterm Exam (Closed-book)	<p>The only items that students may use during the exam are a financial calculator and the Formula Sheet provided by the Professor in advance.</p> <p>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.</p> <p>Please turn off and stow away your cell phone during the exam.</p>

Academic Integrity

The Department of Economics and Finance 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 and to uphold the ideal of academic integrity. Any student who attempts to compromise or devalue the academic process will be sanctioned.

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

Any infringement of this rule will be treated as a serious violation of Academic Integrity. Any suspected academic dishonesty in this regard will result in a grade of F on the exams and most likely an F in the course as well. Students should also understand that a report of suspected academic dishonesty will be sent to the Dean of Students' office and becomes 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 Services for Students with Disabilities according to their Mission Statement:

The Office of Services for Students with Disabilities exists to provide reasonable accommodations to students with disabilities to ensure they have equal access to the college's programs and services. Through student intake, faculty consultation, and outreach to the community, students can develop interpersonal, social, vocational and emotional growth.

Students who feel that they may need a reasonable accommodation based on a disability should contact the staff at the Office of Services for Students with Disabilities on their website [here](#).

Assurance of Learning Chart				
EMSF Learning Goals	Significant Part of Course	Moderate Part of Course	Minimal Part of Course	Not Part of Course
Financial reasoning skills	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Global awareness	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ethical awareness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Assignment Mapping		
Assignments	Course Learning Goals	EMSF Learning Goals
Homework Assignments	Fixed Income Securities: Pricing and Portfolio Management Equity Valuation Models Active Portfolio Management	Financial reasoning skills
Lectures	Fixed Income Securities: Pricing and Portfolio Management Equity Valuation Models Active Portfolio Management Portfolio Performance Evaluation	Financial reasoning skills
Midterm Exam	Fixed Income Securities: Pricing and Portfolio Management Equity Valuation Models	Financial reasoning skills Communication
Course Project	Active Portfolio Management Investment Policy and Portfolio Performance Evaluation	Financial reasoning skills Leadership Communication
Workshops	Fixed Income Securities: Pricing and Portfolio Management Equity Valuation Models	Financial reasoning skills Leadership Communication

