

Investment analysis and portfolio management (S.I.)

ENFIN861		3 Credits
Professor	Adam Zaremba	
Assistant	-	

COURSE DESCRIPTION

This course provides a comprehensive introduction to modern financial markets, instruments, and portfolio management techniques, with an emphasis on asset pricing. It covers traditional markets (equities, fixed income, commodities), derivatives for risk management, and the evolution of asset pricing models—from the CAPM to multifactor frameworks. The course integrates insights from behavioral finance and anomalies, combining theory with real-world data applications.

I.- COURSE LEARNING OBJECTIVES

General Objective: To provide students with a solid understanding of how modern financial markets function and how investment portfolios are constructed, priced, and managed under risk.

1. Understand the structure and functioning of equity, fixed income, derivative, and commodity markets.	
2. Apply core portfolio analysis and risk management tools.	
3. Explain and critique the main asset pricing models, from CAPM to multifactor models.	
4. Evaluate investment strategies using portfolio risk metrics and performance measures.	
5. Recognize the role of behavioral biases and anomalies in shaping financial markets.	

II.- CONTENTS

Topic	Content	Mandatory Readings	Activities
1. Introduction to Financial Markets: Equity and Fixed Income Markets	Market structure and participants; Role of equities and bonds; Pricing basics and yield curves.	-	Lecture and guided discussion on the role of financial markets and main asset classes.
2. Financial Derivatives I	Futures and forwards; Hedging strategies and basic applications.	-	Lecture with illustrative examples of futures and forwards used in hedging.

3. Financial Derivatives I	Options and swaps; Risk transfer and structured products.	-	Lecture introducing options and swaps with real-world applications.
4. Commodity Markets	Characteristics of commodity investing; Hedging and speculation; Links with financial markets.	-	Lecture on commodity market structure, supported by current market illustrations.
5. Portfolio Analysis	Diversification and efficient frontier; Mean-variance optimization; Real-world applications.	-	Lecture on diversification and the efficient frontier, with brief numerical demonstrations.
6. Factor Theory and the CAPM	Theoretical foundations; CAPM derivation; Empirical performance; Introduction to multifactor models.	-	Lecture explaining CAPM foundations and empirical validation examples.
7. Portfolio Risk Metrics and Performance Evaluation	Risk measures (volatility, beta, VaR); Performance evaluation (Sharpe, Treynor, Jensen's alpha).	-	Lecture on key risk and performance measures, with instructor-led walkthroughs.
8. Behavioral Finance in Asset Pricing	Investor psychology and biases; Limits to arbitrage; Implications for efficiency.	-	Lecture introducing behavioral biases and their implications for market efficiency.
9. Asset Pricing Anomalies	Size, value, momentum anomalies; Empirical evidence; Portfolio strategies.	-	Lecture presenting main empirical anomalies with selected case illustrations.
10. Multifactor Pricing Models	Fama–French models; Carhart model; Recent multifactor approaches.	-	Lecture on multifactor models and their practical relevance in portfolio management.

III.- METHODOLOGY, EVALUATION AND BASIC REGULATIONS

3.1.- Methodology:

Lectures, interactive discussions, and case studies using real market data. Students will analyze asset pricing models and portfolio performance in applied exercises.

3.2.- Evaluation

Portfolio Simulation (30%) – Individual exercise on practical trading of financial instruments with real data.

Final Assignment (70%) – Written assignment on portfolio management and derivatives. Deadline: January 22nd

3.3.- Basic Regulation

1. Students must have at least 75% attendance in the course to pass it.
2. Classes will be on the days and times indicated by the program management.
3. For each class, students must have read and studied the corresponding bibliography in advance.
4. The grading of all evaluations will be done with a grade from 1 to 7.
5. The professor reserves the right to add, delete or replace bibliography during the course of the program if he/she deems it appropriate for the proper progress of the subject.
6. The unjustified absence of a student from a requirement will be graded 1.
7. It is important to emphasize that each student must assume his or her own responsibility in completing the program, especially in relation to:
 - a. Be up to date on the development of the subject and the various instructions given by both the teacher and the course coordination. For example, absence from a class session does not exempt you from the academic obligations established that day.
 - b. Ensure faithful compliance with the dates and deadlines established for the different evaluation activities. Once set and known, they will not be modified.
 - c. Obtain the support material indicated for the chair when applicable.
8. All works presented during the program will only have value to the extent that their author is able to explain and support them personally. Deliveries that contradict the above are not accepted. Any medical justification corresponding to non-attendance to a requirement must be presented through the regular channels established by the University.
9. Any form of copying and/or plagiarism is penalized and if this situation is identified, the respective [disciplinary procedure](#) will be followed.

IV.- BIBLIOGRAPHY

Support Readings

Bodie, Z., Kane, A., & Marcus, A. (2023). Investments (13th ed.). McGraw-Hill.

*Syllabus subject to changes