AFIN306 - Investment Analysis, Portfolio Theory & Management

Course Title	Investment Analysis, Portfolio Theory & Management
Course Code	AFIN306
Course Type	Elective
Level	BA (Level 1)
Year / Semester	4th year/Spring
Teacher's Name	Dr Christoforos Andreou

ECTS	6	Lectures / week	3	Laboratories/week	

Course Purpose	This is an advanced course in finance dealing with investments in financial markets. The goal of the course is to introduce students to financial markets for investments and the portfolio management approaches. The course applies portfolio theory, explain the importance of diversification and explain alternative pricing models for assets and risks. Students should learn to practically implement portfolio strategies with the use of matrix analysis for portfolio optimization and use of programming software for optimizations and demonstrate their findings in group projects. The course also covers different evaluation assessment metrics for evaluating investments and modern developments in investment theory. Finally, the course explains behavioral biases and irrational behavior in financial markets allowing students to understand and potentially overcome these biases
Learning Outcomes	1. Describe of the investment environment and markets 2. Describe the portfolio management process 3. Apply portfolio theory analysis using expected returns, risk and explain the concept of diversification 4. Calculate the value of stocks using alternative models 5. Outline and apply the theory of market efficiency in different settings 6. Implement portfolio strategies with the use of matrix analysis for portfolio optimization and use of programming software for optimizations 7. Apply modern developments and use technical analysis tools 8. Assess strategies and assess investment performance using alternative measures 9. Describe various forms of behavioral biases and how they impact investment behavior

Prerequisites	AFIN101, AFIN102	Co-requisites	None
Course Content	**Market organization and structure:** Main functions of the financial system Classifications of assets and markets Financial intermediaries Long and short positions Leveraged positions Execution, validity, and clearing instructions Market and limit orders Primary and secondary markets Quote-driven, order-driven, and brokered markets Characteristics of a well-functioning market Objectives of market regulation **Security market indexes:** Price return index Total return index Choices in index construction and management Advantages and disadvantages of different weighting schemes Rebalancing and reconstitution Uses of market indices Equity, fixed income, and alternative investment indices **Market Efficiency:** Definition of efficient markets Different forms of market efficiency Evidence regarding market efficiency Implications for fundamental analysis, technical analysis, and portfolio management Market pricing anomalies Behavioral finance: explain various investor biases such as overconfidence, reducing regret, limited attention span, chasing trends etc. and how investors can build on these knowledge to avoid them **Portfolio management process:** Portfolio approach to investing Investment management clients: types, characteristics, and needs Steps in the portfolio management process Risk and return objectives Determinants of risk tolerance Investment constraints Risk budgeting Strategic asset allocation Tactical asset allocation and security selection Rebalancing policy Pooled investments **Portfolio theory:**

	Means, variances and correlations of assets, feasible investment set, minimum variance set and efficient set, investor preferences in mean-variance space and the concept of diversification, portfolio optimization and optimal capital allocation
	Portfolio optimization using matrix algebra and using programming software, minimum variance and efficient portfolios using optimization, formulation using R programming
	Equity markets:
	Types of equity securities
	Importance and relative performance of equity securities
	Ownership characteristics and voting rights
	Investing in nondomestic equities
	Risk and return characteristics
	Market value and book value
	Cost of equity, (accounting) return on equity, and investor's required return
	Technical analysis:
	Principles, applications, and assumptions of technical analysis
	Construction and interpretation of charts
	Trend, support, and resistance lines, and change in polarity
	Common technical analysis patterns, indicators, and cycles
	Elliott Wave Theory
	Intermarket analysis
	Graphs using R programming
Teaching Methodology	The course is delivered to the students by means of lecturers, conducted with the help of computer presentations and the use of the board.
	The lecturer provides demonstrations and examples on the use of R or related programming software in modeling financial problems relating to investments. These demonstrations are discussed in class. Students are then asked to expand on this knowledge by solving problems of interest for investment strategies and group projects and presenting their work in class (e.g, creating optimal portfolio and evaluation of performance measures)
	Lecture notes and other course material like spreadsheets and R programs examples are available to students through the e-learning platform.

Bibliography	(c) Textbooks: Bodie Z., Kane A. and Alan Marcus Investments, McGraw-Hill Education; 11 edition (May 30, 2017) CFA Program Curriculum 2020 Level I-III, Wiley (d) References: • Luenberger, Investment Science, Oxford University Press,2014 • H. Kent Baker, Greg Filbeck, and John R. Nofsinger Behavioral Finance What Everyone Needs to Know, Oxford University Press, 01 March 2019
Assessment	(a) Methods: Students will be assessed with coursework that involves written and computer based assignments, a group project, a midterm and a final test. The course involves both explaining concepts and numerical problems and developing computer skills for handling data and financial modeling using software. Relating to the group project, the students are allocated in teams (max of 3 person) to work on a specific banking related project involving the use of software. Each team presents their work in class. Part of grade is allocated in the presentation and part on the handed project. (b) Criteria: Assessment criteria are available in each written assignment, group project and in the midterm or in the final exam (c) Weights: • Assignments (including computer based) 10% • Group project 10% • Midterm 20% • Final Exam 60%
Language	English language