



SECURITY ANALYSIS & PORTFOLIO MANAGEMENT

PROF. J P SINGH

Department of Management Studies
IIT Roorkee

PRE-REQUISITES : Senior School Mathematics

INTENDED AUDIENCE : The audience would comprise of those desirous of get acquainted with the intricacies of financial securities valuation, their strategical investment in structured portfolios and their applications as investment avenues. The learners would be able to appreciate the nuances that have led to the origin and extensive development of this field of knowledge.

INDUSTRIES APPLICABLE TO : This course will attract immense recognition in the entire financial services industry including banks, stock & commodity exchanges, stock & commodity brokers, portfolio managers, investment bankers, market regulators etc. Those employed in corporate finance shall also find it valuable as it would add to their versatility. Academicians will find it a gateway to further work in related areas.

COURSE OUTLINE :

Regulatory reforms across the world are gradually being introduced to reduce trade impediments between nations and usher in free market based pricing. Cross border investments through direct/portfolio routes are also being enticed as a medium for funding of growth and developmental activities. In addition, the governments of developing nations continue to pursue their strategy of partial privatization of the frontier sectors in an attempt to raise revenues for the exchequer as well as reduce operational losses with increased efficiency. Under these stimuli, scientific investment management by the investor fraternity becomes of cardinal necessity for generating competitive returns and surviving in the marketplace. Financial instruments have proven to be immensely useful as versatile investment avenues. Their vitality can be gauged from the exponential growth in trading volumes as well as the advent of new structured products literally on a day to day basis.; Most courses in this area do not cover investment theory as a cogent wholesome. They deliver the content in the asymptote rather than as a mainstream course focusing either on the purely stochastic underpinnings or emphasizing the trade-based orientation. The proposed course aims to provide valuable insights into the underlying financial nuances involved in investment management holistically. The target audience is the student community who have taken some mathematics courses at the secondary level and are pursuing graduate courses in finance or management with specializations in finance and/or risk management.

ABOUT INSTRUCTOR :

Prof. Jatinder Pal Singh, is a Professor at the Indian Institute of Technology Roorkee. He is also a postgraduate in Physics, Mathematics and a graduate in Law & Operational Research. After about 10 years of corporate experience, he joined the Department of Management Studies, IIT Roorkee in 2001. He is presently Professor (HAG) in the said department. His research interests are in econophysics, mathematical finance, financial risk management, international finance and corporate governance.

COURSE PLAN :

Week 1: Concept of Investment, Investment Objectives and Constraints, Investment Classification. Financial Markets & Instruments, their role & classification. Regulation of Securities Markets, Primary & Secondary Markets, Trading, Clearing and Settlement procedures, Market Indices.

Week 2: Concept & Measures of Risk and Return, Portfolio Risk & Return, Reduction of Risk through Diversification.

Week 3: Concept of Intrinsic Valuation, Cash Flow based Equity Stock Valuation Models. Value Added & Asset based valuation. Use of Multiples & Relative Value.

Week 4: Fundamental Analysis for Determination of Inputs to Equity Valuation, Cash Flow & Profitability Forecasting, EIC Framework, Economic Forecasting Methods, Industry Analysis, Industry Life Cycle, Structural Analysis.

Week 5: Company Analysis, Publicly accessible Corporate Information, Tools of Financial Statement Analysis.

Week 6: Financial Statement Analysis including Impact of Changes in Accounting Policies, Depreciation Methods, Revaluation of Fixed Assets, Foreign Exchange Transactions, Amortization of Preliminary and Preoperative Expenses, R&D Expenditure, Valuation of Inventory, Treatment of Leases etc.

Week 7: Measures of Bond Returns, YTM & Holding Period Yields, Bond Valuation, Spot & Forward Interest Rates, Term Structure & Yield Curves, Interest Rate Sensitivities, Duration & Elasticities. Key Rates & Bucket Rates.

Week 8: Efficient Market Hypothesis, Technical Analysis: Dow Theory, Types of Charts, Price Patterns, Trend Lines, Trend Channels, Support and Resistance Levels, Relative Strength Analysis, Moving Averages, Breadth of the Market, Volume, Momentum.

Week 9: Portfolio optimization in the mean variance framework: two security case, various combinations of risky & risk-free assets, implications of the results, concept of efficient frontier. Concept of Utility & Indifference Curves, Optimal Portfolio Selection.

Week 10: The multi-security case of portfolio optimization, Tracing of the full efficient frontier with/without the existence of risk-free asset.

Week 11: Single Index & Capital Asset Pricing Model, Systematic and Unsystematic Risk, Beta of a Portfolio, CML & SML, Arbitrage Pricing Theory, Comparison of CAPM and APT, Applications of APT.

Week 12: Active & Passive Portfolio Management, Portfolio Revision of Equity Portfolios, Measuring and Evaluating Portfolio Performance, Measures of Return on Active Portfolios, Buying the Index Approach. Fixed Income Portfolio Management. Active vs Passive Strategies, Portfolio Management Using Derivatives.