

## **AREAS OF CONCENTRATION AND COURSES**

### **MBA Program**

#### **Compulsory Courses:**

- F-501: Management of Financial Institutions
- F-502: Corporate Governance and Ethics
- F-503: Financial Derivatives
- F-504: Foreign Exchange & International Financial Management
- F-505: Fixed Income Securities
- F-506: Cases in Financial Decision Making

#### **Optional Courses:**

- F- 507: Advanced Portfolio Management
- F- 508: Project Appraisal and Management
- F- 509: Financial Statement Analysis and Valuation
- F- 510: Financial Markets and Institutions
- F- 511: Strategic Management
- F- 512: Operations Research
- F-513: Financial Engineering
- F-514: Mathematical Methods of Finance
- F-515: Corporate Restructuring
- F-516: Finance Theory and Corporate Policy
- F-517: Behavioral Finance
- F-518: Investment Banking and Lease Financing
- F-519: Rural Financial Markets and Micro Finance
- F-520: Electronic Financial Services
- F-521: International Business
- F-522: Monetary Economics
- F-523: Entrepreneurship Development
- F-524: Financial Risk Management
- F-525: Securities Market Law
- F-526: Central Banking
- F-527: Government Finance
- F-528: Finance and Development
- F-529: Production Management
- F-530: Microfinance & NGO Management
- F-531: Real Estate Finance and Alternative Investment
- F-532: Business Research Methodology
- F-533: Industrial Organization

F-534: Working Capital Management  
F-535: Market Microstructure  
F-536: Corporate Finance  
F-537: Econometrics  
F-538: Financial Econometrics  
F-539: Negotiations and Conflict Management  
F-540: Seminar in Finance  
F-541: Capital Investment Decisions  
F-542: Commercial Bank Management  
F-543: Marketing of Financial Services  
F-544: Quantum Finance  
F-545: Islamic Finance and Banking

\* Department may reallocate courses between semesters depending on availability of teachers.

## Course Contents

### **F-501: Management of Financial Institutions**

Nature of Financial Institutions and Its Importance; Financial Service Industry and Financial Markets; Risk of the Balance Sheet; Credit and Portfolio; Loan Sales and Asset Securitization; Liquidity; Liability and Liquidity Management; Market Risk: Measurement and Management; Off Balance Sheet Risk Management; Management of Other Risk; Bank Performance Measurement.

#### **Texts:**

1. Cornett, M. and Saunders, A., *Fundamentals of Financial Institutions Management* – 5<sup>th</sup> Edition, Irwin McGraw-Hill Inc., 2006.
2. Rose, P., *Commercial Bank Management* – 5<sup>th</sup> Edition, Irwin McGraw-Hill Inc., 2001.

### **F-502: Corporate Governance and Ethics**

Corporate Governance; stakeholders' interests; impact of size; key people: chairman, board of directors, executives and non-executive directors; future influences; new approaches to corporate governance: golden rules, strategic process, internal and external analysis, stakeholder analysis, formulating strategy and implementation; legal framework: laws governing mergers, acquisitions and tender offers securities laws, business judgment rules, antitrust laws, regulation of insider trading; merger strategy; hostile takeovers; corporate restructuring: divestitures, voluntary liquidation; restructuring in bankruptcy: business failure, costs, reorganization vs. liquidation, corporate control and default, liquidation and investing in distressed companies; valuation of mergers and acquisitions.

#### **Texts:**

1. Kendall, N and Kendall, A *Real-world Corporate Governance*, Pitman Publishing, 1998.
2. Wearing, R. *Cases in Corporate Finance*, Sage Publications, London 2005.

### **F-503: Financial Derivatives**

Derivatives: Forward and Futures Contract, Options, Swap and other derivatives; Forward Contract: Forward Market, Participants, Quotation, Premium or Discount, Relationship between Forward and Spot Price, Arbitrage Arguments; Futures Contract: Futures Market, Clearing Houses, Positions, Taxation, Open Interest, Making to Market, Basis, Spreads, Regulations; Swaps and the Evaluation of Credit Risk: Interest Rate Swap, Currency Swaps, Credit Risk, regulation, Credit Conversion Factor; Options: Characteristics and Principles, Pricing Relationship and graphical presentation of Option's Payoff, Factor affecting Prices of Options, Early Exercise, Equity as a Call Option, Put-Call Parity and Synthetic Construction of Options, Effects of Dividends; Trading Strategies involving Options; Model of the Behavior of Stock Prices; Wiener Process; The Process for Stock Prices and the Process for Derivative Securities; Option Theory and pricing; Pricing Models: Risk Neutral Argument, Valuation – Mimicking Strategy (Synthetic Construction), Analytical Pricing Formula- Ito's Lemma, Derivation of the Black-Scholes Formula, Implied Volatilities, Dividend correction; Numerical Pricing Models: Binomial-Lattice Approach, Pricing Corporate Securities, Options on Currencies Indices, Currencies and Futures Contracts; Hedging Positions in Option and other Derivative Securities; Managing Equity Risk: Strategies, Return Enhancement Strategy, Value Protection Strategy, Stock Index Future, Portfolio Insurance using Put Options, Portfolio Insurance using Replication Strategy.

**Text:** John C. Hull, *Options, Futures and Other Derivative Securities* – 6<sup>th</sup> Edition, Prentice- Hall International Inc., 2006.

### **F-504 Foreign Exchange and International Risk Management**

Spot Rate, Cross Rate, Forward Rate, Arbitrage; Fixed Rate and floating Rate; Central Bank Interventions, NEER and REER; Foreign Exchange Behavior: Parity Theorems, Inflation and Interest Rates, Expected Exchange Rates: Purchasing Power parity, Absolute PPP, Relative PPP, Overvaluation and Undervaluation; Exchange Rate determination: Balance of Payment Approach, Monetary Approach, Portfolio Balance approach; Determinants of Balance of Trade and Payments: Elasticities of Approach to the Balance of Trade, Absorption approach to the balance of trade, Monetary Approach to the Balance of Payments; Foreign Exchange Risk: Type of Risk, Efficient Market, Forecasting; Currency Derivative Markets: Forward Rates, Swaps, Futures and Options, Hedging and Speculation; Import and Export Financing: Institutions, Executing Translations, Letters of Credit, Banker's Acceptance, Multinational banking and other firms; International Investment and Capital Flow: Types of International Flow; Foreign Debt, International Money Market, Capital Flight and Financial Crisis, Macroeconomic Policy in the Open Market; Foreign Exchange scenario in Bangladesh: Rules and Regulations prevailing in Bangladesh, State of Exchange Rate Arrangements and Restrictions, Size and Flow of Foreign Exchange Activities, Roles of Bangladesh Bank and Government budget.

International financial Markets: The world capital markets, The Euro markets and their linkages, The tiered structure of capital markets, International Financial Management, Motives for using International Financial markets, Foreign Exchange Market, Foreign Exchange Transactions, Interpreting Foreign Exchange Quotations, Currency Future and Options Markets, EURO currency Markets, EURO credit Market, EURO Bond Market- Development, Features, Underwriting, International Stock Markets; Balance of Payments, International Trade flows, Factors Affecting International Trade Flows, International Capital flows, Factors affecting Direct Foreign Investment, Agencies facilitating International flows; Exchange Rate Determination: Measurement of Exchange Rate Movements, Factors Influencing Exchange Rates, Speculation on anticipated Exchange Rates, Impact of Exchange Rate on MNC's Value; Currency Derivatives: Forward Market, Currency future Market, Currency Option Market, Currency Call Options; Exchange Rate Systems, Government Intervention, Intervention as a policy Tool, Government Intervention during Asian Crisis, International Arbitrage and Interest Rate Parity: International Arbitrage, Interest Rate Parity, Correlation between Spot and Forward Rates; Exchange Rate Risk Management: Foreign Exchange Rates, Forecasting Techniques, Forecasting Performance, Forecasting under Market Efficiency, Exchange Rate Volatility; Measuring Exposure to Exchange Rate Fluctuations; Multinational Capital Budgeting; Country Risk Analysis; Multinational Cost of Capital and Capital Structure

**Texts:**

1. Fry, Maxwell, J., *Money, Interest and Banking in Economic Development* – 2<sup>nd</sup> Edition, The John Hopkins University Press, 1994.
2. Melvin, Michael, *International Money and Finance* – 7<sup>th</sup> Edition, Harper Collins College Publishers, New York, 2003.
3. Tucker, Alan, Madura, Jeff, and Chiang, Thomas, C., *International Financial Markets* – 8<sup>th</sup> Edition, West Publishing Company, 2006.

**F-505: Advanced Portfolio Management**

Introduction to modern investment theory; Securities and markets; Statistical concepts; Combining individual stocks into portfolio; Finding efficient set; Index models; The Capital Asset Pricing Model; Empirical tests of the CAPM; Factor Models and the APT; Performance Measurement, Performance Analysis, and Performance Attribution; Market inefficiencies or market anomalies - size effect, price earning ratio effect, January effect, Dividend yield effect; Bond portfolio management - valuation and risk, pricing, measuring yield, bond price volatility, Duration, active & passive strategies, immunization and cash flow matching; Options and Futures; Black-Schole and Beyond, Fixed income derivative securities, interest rate derivative

securities; Portfolio Insurance, program trading & other recipes for disaster; Stock market in Bangladesh.

**Texts:**

1. Reilly and Brown, *Investment Analysis and Portfolio Management* - 7<sup>th</sup> Edition, Thompson South Western, 2012.
2. Bodie, Kane, Marcus, *Investment* - 8<sup>th</sup> Edition, McGraw Hill, 2008.

**F-506: Cases in Financial Decision Making**

The objective of this course is to develop the ability to deal with business problems relating to finance. It will incorporate case problems on capital structure, dividend policy, financial planning, cost of capital, capital investments, mergers and acquisitions, financial distress and financial restructuring. Students are expected to apply the financial tools and techniques to analyze cases, prepare reports and make case presentation extensively.

**Texts:**

1. Diana R. Harrington, *Case Studies in Financial Decision Making* – 3<sup>rd</sup> Edition, The Dryden Press, 1997.
2. Robert F. Bruner, *Cases Studies in Finance-Managing for Corporate value Creation* – 5<sup>th</sup> Edition, McGraw Hill Inc., 2006.
3. Gilson, *Creating Value through Corporate Restructuring: Case Studies* – 2<sup>nd</sup> Edition, John Wiley and Sons., 2010.

**F-507: Fixed Income Securities**

Introduction: features of fixed income securities, indenture and covenants, maturity and par value, coupon rate, conversion privilege, put provision, embedded options; risks associated with investing in bonds; understanding yield spreads: interest rate determination, treasury rates, yields on non-treasury rates; valuation of fixed income; term structure and the volatility of interest rates; valuing bonds with embedded options; the binomial securities: traditional approach to valuation, arbitrage-free valuation approach, valuation models, traditional yield measures, theoretical spot rates, forward rates, terms structure of interest rates; measurement of interest rate risk-model, valuing a callable bond, valuing a puttable bond, valuing a step-up callable note, valuing a capped floater; mortgage-backed securities; asset-backed securities; valuing mortgage-backed and asset-backed securities; framework for assessing trading strategies: principle of leverage, borrowing funds via repurchase agreements, total return, controlling for interest rate risk.

**Texts:**

1. Frank J. Fabozzi, *Fixed Income Securities*, 2nd Edition, 2001.
2. Frank J. Fabozzi, *Bond Markets, Analysis & Strategies* – 8<sup>th</sup> Edition, 2012.

**F-508 Project Appraisal and Management**

Concept of project and project appraisal; Aspects of appraisal; Macro and Micro perspective of projects; Merit and demerits of project appraisal; Appraisal of different critical factors of project preparation; Importances of cost benefit analysis; Project management system; Methodology of project management.

**Texts:**

1. George Irvin, *Modern Cost Benefit Methods*, 1978.
2. Little and Mirrlees, *Project Appraisal Technique for the Underdeveloped Countries*, 1974.
3. Timothy, J., *Contemporary Project Management* – 2<sup>nd</sup> Edition, South-Western Publishing Co., 2012.

**F-509: Financial Statement Analysis and valuation**

Framework and Need for Financial Statement Analysis; Financial Information and Capital Markets; Objectives of FA; Demand for and Supply of Financial Statement Information; Regulatory and market forces; costs associated with Disclosure; Accounting Information; Financial Equilibrium; Free cash flow and Sustainable Growth; Introductory Techniques- Ratio Analysis- Liquidity, Solvency/leverage, Profitability/Efficiency of Assets Ratio, DuPont Analysis, Assumption and Properties of Financial Ratio; Cross-Sectional analysis of FSA-Criteria used to select peer groups; Aggregation options in cross-sectional analysis; Industry Comparisons of financial Ratio; Time-Series analysis of FSA- Issues & Approaches; Earnings Management and Smoothing; Statistical Tools for Time-Series Analysis; Analysis of Financial Statement: A Synthesis- Adjusted Financial Ratio; Projection of Financial Requirements; Pro-forma statement; Financial Planning and Forecasting; Distress Analysis and Financial Information- Univariate Models of Distress Prediction, MDA, Altman's Model-Z Score analysis; Loan Decision/Credit Analysis and Financial Information; Quantitative Scoring Model; Credit Rating Score; LRA analysis- assessment of business risk; Financial Control- Corporate governance and Financial control; Control system for social and economic management; Financial control of portfolio management decisions.

**Texts:**

1. George Foster, *Financial Statement Analysis – 2<sup>nd</sup> Edition, 1998.*
2. Penman, S. H. *Financial Statement Analysis and Security Valuation- 4<sup>th</sup> Edition, 2010.*
3. White, Sondhi and Fried, *The Analysis and Use of Financial Statement – 3<sup>rd</sup> Edition, 2003.*

**F-510: Financial Markets and Institutions**

An overview of the financial system; The role of financial markets: Saving; Investment and financial intermediation; Determination of interest rates; Term structure of interest rate; The regulatory environment: The role of government in the financial system; Money and the financial system; Risk, return, and efficiency of financial markets; Money markets; Bond markets; Mortgage markets; Stock markets; Futures and Options markets; Foreign exchange markets; The Capital market; Financial markets and institutions in Bangladesh.

**Texts:**

1. Mosarof Hossain, H. M. *Financial Markets and Institutions, Conventional and Islamic Approach – 2<sup>nd</sup> Edition*
2. Jeff Madura, *Financial Markets and Institutions – 5<sup>th</sup> Edition, South-Western College Publishing, Australia, 2000.*
3. Fabozzi, Modigliani and Ferri, *Foundations of Financial Markets and Institutions – 2<sup>nd</sup> Edition, Prentice-Hall International Inc., New Jersey, 1997.*

**F-511: Corporate Strategy and Ethics**

Functions and Responsibilities of Senior Management, the Critical Problems that affect success in the total Organization, and the decisions that determine the direction of the Organization and shape its future; Framework for Strategic analysis, Measurement of Organizational Performance; External Environment Analysis, External and Industry analysis; Business Strategy analysis; Capability analysis, Gap Analysis, Strategic Options and decision Making, Implementation, Corporate Strategy: Merger and Acquisition, Strategic Alliances.

**Texts:**

1. Hubbard, G., *Strategic Management: Thinking Analysis and Action – 2<sup>nd</sup> Edition, Prentice Hall, 2004.*
2. Charles, WL Hill and Gerath R. Jones; *Theory of Strategic Management- 8<sup>th</sup> Edition, South-Western, 2009.*

**F-512: Operation Research**

Origins and Impacts of Operations Research, Mathematical Models, Model Components, Graphical Method, Algebraic Approach, Summary Tableau Method, Special Cases of Simplex Method, Non restricted, non-positive variables and minimization problems, Infeasible and Unbounded Linear Programs, Software for Larger Linear Programs, Network Problems and Applications, Transportation and Assignment Problem Formulations, Shortest Path Problem, Minimum Spanning Tree Problem, Integer Programming, Standard Formulation Techniques, Formulation Examples.

**Text:** Hillier, F.S. and Lieberman, G.J. Introduction to Operations Research- Seventh Edition, McGraw Hill, 2000.

### **F-513: Financial Engineering**

Financial engineering and risk, sources of financial risk, hedging objective and measuring hedge efficiency, the evaluation of risk-management products: volatility of foreign exchange rates, interest rate & commodity price, an overview of the risk-management process: a building block approach to forward, futures, swaps, options and hybrid securities, how risk-management can increase the value of the firm, methods of managing risk: static hedging and dynamic hedging methods, managing currency risk using forward, managing interest-rate risk using options and option based instruments, managing equity risk-bull & bear strategies, value-production strategies, using stock index futures & options, portfolio insurance, exotic equity derivative, commodity risk.

#### **Texts:**

1. Galitz, *Financial Engineering* – 1<sup>st</sup> Edition, 1995.
2. Smithson, Smith and Wilford, *Managing Financial Risk*, 1995.

### **F-514: Mathematical Methodes of Finance**

Using mathematical model such as matrix, algebra, calculus differential equation and optimization method to financial market and financial product pricing, Modeling and Pricing financial securities and explaining and applying Black-Scholes-Merton option pricing model, construct and managing portfolio under different constraints scenarios.

**Text:** Mathematical Techniques in Finance by Ales Cerny, Published by Princeton University Press 2004.

### **F-515: Islamic Finance and Banking**

Islamic Financial System: Islami Shariah; Value proposition, Functions; Types of Islamic financial markets; Islamic financial intermediaries, Types; Requisites of Islamic financial system. Principles and development of Islamic finance. Islamic Economics and Financial Systems: Islamic economics; Economics of riba; Structure of Islamic financial system; Islamic financial markets and instruments. Development of Islamic Financial System: Islamic finance; International infrastructure institutions; Models of islamic finance; Infrastructure for development; Development of vibrant islamic financial markets. Shari'ah Framework and Principles for Islamic Financial System: Maqasid Al-shari'ah vis-à-vis Islamic finance; Legal maxims; Role of ijthad and mujtahid in Islamic banking and finance; Fundamental prohibited elements in Islamic finance; Mutuality of risk sharing; Governance and transparency. Shari'ah Contracts: Elements of shari'ah contracts; Classification of shari'ah contracts- exchange-based contract, charity-based contract, waiving contracts, partnership contract; Concept of exchange-based contracts-Bay' Al Murabahah, Bay Al-Istisna, Bay Al-Salam, Bay Al-Sarf, Bay Al-Inah, Bay Al-Tawarruq; Partnership contracts in Islamic finance; Security contract; Charitable contracts; Agency contract; Supporting contract. Islamic Banking Operations and Instruments: Role of Islamic banks; Sources of funds; Uses of funds. Islamic Money Market: participants, instruments; Islamic vs. conventional money markets; Components of Islamic money market; Islamic interbank market.

Sukuk Market, Sukuk structures; Issues, opportunities and challenges in the sukuk market - sukuk debt or equity, sukuk trading, sukuk pricing, sukuk default. Islamic Equity Market: The characteristics of Islamic equity; Equity valuation; Supply, demand and price of equity; Understanding and measuring risks; Islamic equity market instruments - stocks, preference shares, stock index futures, short selling; Unit trusts or Mutual fund; Shai'ah screening of shares; Islamic equity market index; Issues, opportunities and challenges. Legal Framework for Islamic Finance: Legal issues and challenges; Common clauses in financial contracts. Islamic Modes of Investment.

**Text:**

1. International Shai'ah Research Academy, Islamic Financial System: Principles and Operations.
2. Hasan M. Kabir (eds), Text Book on Islamic Banking, Islamic Economics Research Bureau, Dhaka, 2003.

Reference: Abu Umar Faruq Ahmed, Islamic Finance in a Nut shell-Brian Kettell, Theory and Practice of Modern Islamic Finance.

**F-516: Finance Theory and Corporate Policy**

Capital Markets: Consumption and Investment with and without Capital Markets, Transaction Costs and Relevant Issues; Investment Decision under Certainty : Fisher's Separation Theorem, Agency Problem, Cash flow for Capital Budgeting Purposes; Advanced Capital Budgeting Techniques in Practice: Project with different lives, Constrained Capital Budgeting Rates; The Theory of Choice: Preference functions, Economic Properties of utility function, Empirical evidence on Suitability of Alternative Preference function, State Preference Theory: Uncertainty and Alternative Future states, Pure Securities, Complete Capital Market, Derivation of Pure security Prices, Economic Determinants of Security Prices, Optimal Portfolio Decisions, Portfolio Optimality conditions and Portfolio Separation; Capital Market Theories: CAPM, Nonstandard CAPM, Critical Analysis of CAPM, Application of CAPM for Corporate Policy; Arbitrage Pricing Theory: Estimating and testing APT, APT and CAPM; Capital Structure and Cost of Capital: Value of the Firm in a world of both personal and corporate taxes, A synthesis of M-M and CAPM with and without taxes, the effect of other financial instruments on cost of capital; Dividend Policy: Irrelevance of Dividend Policy in a world without and with taxes, Valuation , Growth and Dividend Policy, Towards a Theory of Optimal Dividend Policy, Behavioral Models of dividend Policy, Clientele Effects and Ex-date Effects, Relationship Between Dividend, Value, Valuation and Corporate Policy; Agency Theory: Structure and Components, Relationship among Different companies; Merger, Restructuring and Corporate control.

**Texts:**

1. Copeland, T. E. and Weston, J. F. , *Financial Theory and Corporate Policy* – 4<sup>th</sup> Edition, Addison-Wesley Publishing Company, 2005.
2. Megginson, W. L., *Corporate Finance Theory*, Addison-Wesley Educational Publishers Inc, 1997.

**F-517: Behavioural Finance**

**Course Contents:** Sources of bubbles and crashes; Stock return "anomalies" such as the momentum and value effects, Investor mood and herd behavior; Role played by the money management industry, and the effects of market frictions such as illiquidity and constraints on short selling. **Non-behavioral finance:** Introduction; Why we care: The roles of securities prices in the economy; Efficient markets hypothesis (EMH): Definitions; EMH in supply and demand framework; Theoretical arguments for flat aggregate demand curve; Equilibrium expected returns models; Key methodologies; Pro-EMH evidence; **Some motivating evidence:** Return predictability in the stock market; Data mining; Joint hypothesis problem; Predictability in bonds,



forex, futures, real estate, options, sports betting; **Demand by arbitrageurs:** Definition of arbitrageur; Long-short trades; Risk vs. Horizon; Transaction costs and short-selling costs; Fundamental risk; Noise-trader risk; Professional arbitrage; Destabilizing informed trading (positive feedback, predation); Case: Strategic Capital Management, LLC; **Demand by average investors:** Definition of average investor; Belief biases; Limited attention and categorization; Nontraditional preferences – prospect theory and loss aversion; Bubbles and systematic investor sentiment; **Supply by firms and managerial decisions:** Supply of securities and firm investment characteristics (market timing, catering) by rational firms; Associated institutions; Relative horizons and incentives; Biased managers.

**Text Book:** Hersh Shefrin, *Behavioral Corporate Finance* - 1<sup>st</sup> Edition, McGraw-Hill/Irwin, 2005.

**Reference:** Joachim Goldberg and Rudiger Von Nitzsch, *Behavioral Finance*, 2001.

### **F-518: Investment Banking and Lease Financing**

Leasing; Types, Comparison with Ownership; Economics of Leasing: Economic Rationale of Leasing, Evaluating the Cost of Leasing; Accounting Aspects of Lease Financing; Tax Aspects of Leasing: Factors indicating a Sale, Comparative analysis, Leveraged Leases, Equipment Lease Financing; Project Lease Financing; Sale and Lease Back in Real Estate; Investment Banking – Functions, Types, Industry Structure; Primary Market Making - Corporate Finance; Underwriting and Syndication; Secondary Market Making; Dealer-Broker Activity; Trading - Speculation and Arbitrage; Financial Engineering; Other Activities of Investment Bank - Advisory Investment Management and Merchant Banking; Funding and Risk Management; Laws Governing Investment Banking - Securities and Exchange Regulations (Merchant Banker and Portfolio Manager)1995; Investment Banking Process & IPOs - Under pricing, Long Run Performance of IPOs, Hot Issue Market; Securitization and Factoring: Asset Securitization, Debt Securitization, Factoring; Stock Price Indexing and Credit Rating.

#### **Texts:**

1. Baker and Hyes, *Lease Financing*, John Wiley & Sons, New York, 1981.
2. Marshall and Ellis, *Investment Banking and Brokerage* – 1<sup>st</sup> Edition, McGraw Hill Inc., New York, 1995.
3. Joshua et al, *Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions* – 1<sup>st</sup> Edition, Wiley, 2009.

### **F-519: Rural Financial Markets & Microfinance**

Rural Financial Markets: Fragmentation; Integration of markets and role of money; Financial deepening and economic growth; Rural credit market; An Analysis of Rural Credit Market and the emergence of Micro Finance; Formal Credit Market: Collateral based Production technology, High Transaction Cost and Exclusion of Poor Households; Informal Credit market: Segmented and Small Market by Lender, High Interest Rate but Low Transaction cost, Formal Cooperative credit Market: Limited Scope and Heterogeneity; Micro Finance and Minimization of Risk; Woman to Empowerment and Wealth distribution; Savings Mobilization: Voluntary and Compulsory, Arguments for and Against Compulsory savings, Financial Development and Micro-and-Macro Impact of Savings Mobilization; Financing of Loan Portfolio: Savings, Cheap fund and borrowing, Uses Pattern of Micro Loan, Interest Rate : Argument for and Against, Determinants of Interest Rate, Choice of the borrowers about Borrowing from different Markets; Indicators of Success of MFIs: Outreach, Saving Mobilization, Cost of Loan Production, Efficiency and Productivity; Micro Finance Program of Bangladesh : Grameen Bank, BRAC. PROSHIKA and ASA; Regulations: Self-regulation versus Formal Regulations, Arguments for and Against Stability, Safety of Savings, Sustainability of MFIs, and sound rural credit market development, Expense Preference Behavior and Micro-Economic Management; Impact assessment: Methodology Debate, Empirical Evidences; Emerging Issue: Micro finance versus Macro Finance plus; Market Structure and Competition,

Linkage between Commercial Banks and MFIs, Overlapping, Ultra-poor Coverage and vertical and Horizontal Expansion.

**Text:** Various articles and published materials.

### **F-520: Electronic Financial Services**

Overview of e-commerce and issue of risk and security; EDI, e-commerce and internet; risk in insecure system; risk management; e-banking and e-payment systems: checks, collections, debit and credit cards, lock box, clearing house; transaction processing, cryptography and authentication; future of e-banking.

**Texts:**

1. Greenstein and Feinmen, *Electronic Commerce-Security, Risk Management and Control*.
2. Treese and S.C. Stewart, *Designing Systems for Internet-Commerce* 1998.

### **F-521: International Business**

Introduction and Overview on Globalization, National Differences in Political Economy, Differences in Culture, Ethics in International Business, International Trade Theory, The Political Economy of International Trade, Foreign Direct Investment, The Strategy of International Business, Entry Strategy and Strategic Alliances, Financial Management in the International Business, Country Risk Analysis.

**Texts:**

1. Charles W. L. Hill, *International Business – 7<sup>th</sup> Edition*, Irwin McGraw-Hill., 2008.
2. Kamal Fatehi, *International Management: A Cross-cultural Approach*. Prentice Hall, 1996.

### **F-522: Monetary Economics**

Nature and Uses: The Nature of Managerial economics, Decision Maker's Object; Decision Analysis: The concept of Certainty, Concept of Risk, Concept of Uncertainty, Decision Tools, Decision Criteria, Sequential Analysis, Decision Tree, Forecasting: Mechanical Extrapolation, Barometric Techniques, Opinion Polling, Electric Models, Evaluation of Forecasting, Demand Measurement; Production and cost Analysis; Profit Planning; Pricing; Investment Selection; Financial Policy.

**Text:** Sco and Winger, *Monetary Economics: Text, Problems and Short Cases*.

### **F-523 Entrepreneurship and Business Project Development**

Concept and meaning of Entrepreneurship; Theories of Entrepreneurship; Characteristics of entrepreneurs; Entrepreneurial motivation; Environment of Entrepreneurship; History of Entrepreneurship development-Japan, USA, UK, India, Pakistan, Philippines, Bangladesh.

Sources and procedures of government and private assistance; Government regulation concerning Entrepreneurship development; Problems of Entrepreneurship development in Bangladesh; Preparation of Business Plan. Case studies of entrepreneurs.

**Texts:**

1. Zimmerer, T.W. and Scarborough, N.M. *Essentials of Entrepreneurship and Small Business Management – 5<sup>th</sup> Edition*, Prentice Hall of India, 2007.
2. Hisrich, Robert D., *Entrepreneurship - 7<sup>th</sup> Edition*, New York: McGraw-Hill/Irwin, 2006.
3. Donald, F., *Entrepreneurship: Theory, Process and Practice – 8<sup>th</sup> Edition*, South-Western College Pub., 2008.

### **F-524: Financial Risk Management**

Risk and its Management –Risk, Direct Vs Indirect Expected Losses, Types of Risk Facing Businesses and Individuals, Risk management process and methods, Understanding cost of risk,

components, Firm value maximization and cost of risk, Risk Identification and Measurement – Identifying business and individual risk exposures, Evaluating the frequency and severity of Losses, Pooling Arrangements and Diversification of Risk, - Risk reduction through Pooling independent losses, Pooling arrangements with correlated losses, *Ex Ante* Premium payment Vs *Ex Post* Assessment, Insurance Pricing, - Insurance cost and fair premiums, Expected claim costs for homogeneous and heterogeneous buyers, Investment income and timing of claim payments, administrative cost, profit loading, capital shock and underwriting cycles, price regulation, Risk Aversion and Risk Management by Individual and Corporation, - Risk aversion and demand for insurance, Business risk management and demand for insurance, Loss Control, - Loss prevention and reduction, Optimal loss control with known factors, Introduction to Insurance, Insurability of Risk, Contractual Provisions, and Legal Doctrine, Insurance and its Classification: Importance, application and contents of Marine insurance, Fire insurance, Commercial Insurance, Aviation insurance, General insurance, Insurance Vs assurance, Utmost good faith: Introduction, Importance of utmost good faith, Duty of disclosure, Material fact, Breaches of utmost good faith, Void, void able and unenforceable contracts, Principles of Insurance: Indemnity, subrogation and contribution, General features, Objectives, Method of providing indemnity, Importance of subrogation, Subrogation Castellan Vs Preston (1883), Practical application of doctrines, Principle of Proximate Cause, Reinsurance, Insurance Market and Practices of Insurance in Bangladesh, IDRA Act 2010

**Text Book:** Scott R. Harrington and Gregory R. Niehaus (2004) Risk Management and Insurance, 2<sup>nd</sup> Edition, Boston> McGraw-Hill/Irwin Publishing (ISBN: 0-7-233970-5)

Azizul Huq Chaudhuri, *Elements of Insurance*, Bangladesh Insurance Academy, Dhaka.

**Reference:** Williams, *Risk and Insurance* – 8<sup>th</sup> Edition, McGraw-Hill Book Company, New York, 1997.

Roy, H., *Insurance Law: Text and Materials* – 2<sup>nd</sup> Edition, Routledge, 2002.

### **F-525: Securities Market Law**

Objective of securities law; Contents: Companies Act 1994; Securities and Exchange Ordinance 1969; Securities and Exchange rule 1987; SEC Rule 2001 and SEC (Right issue) 2006; SEC Regulations 1996; SEC (Mutual fund) 2001, SEC (Stock Dealer, Stock Broker) 2000; DSE Settlement of Transaction regulations 1998; DSE Listing regulations 1999 and DSE direct listing regulation 2005; DSE Margin regulations 2001 and SEC Margin rule 1999; Depository Act 1999 and Depository rule 2000 and Depository Users' regulation 2003; Study Approach,

**Text:** Thomas Lee Hazen, *Hazen's Treatise On The Law Of Securities Regulation* – 6<sup>th</sup> Edition, Practitioner Treatise Series.

### **F-526: Central Banking**

Role and functions of money and monetary policy; Monetary Economics; Knowledge of macro- and microeconomics in the area of banking, finance, money supply and money demand; Determination of interest rates; Imperfect information and financial markets; Financial intermediaries and regulation; Money creation and the monetary transmission mechanism; Neutrality of money; Inflation and expectations; Phillips curve; Exchange rates and common currency areas.

**Text Book:** Lewis M. and Mizen P., *Monetary Economics*. Oxford. 2002.

**Reference:** Mishkin, F. *The Economics of Banking and Financial Markets* - 6<sup>th</sup> ed. rev., Boston. 2003.

Handa, J., *Monetary Economics*, Routledge. 2000.

**F-527: Government Finance**

Modern state of Government Finance; Distinction between Government Finance, business and personal finance; Public goods vs Private goods; Normative and subjective approach; Principles and Canons of Taxation; Allocation of resources in the government sector: Pareto Optimality, maximum social advantage & the LDCs; Externalities and the role of government; Various principles on sources and uses of government budget and program; Budgetary system & cost benefit analysis; Budgetary system of Bangladesh; Economic growth vs the income distribution and government finance (Financial Administration will be highlighted).

**Text:** Due and Friedlander, *Government Finance*, Richard D. Irwin Inc., Illinois.

**F-528: Finance and Development**

Introduction; Growth and Structural Change; Development and Human Welfare; Guiding Development: Markets versus Controls; Planning Models; Sustainable Development; Agriculture; Industry; Human Resources Development; Population, Education, Health and Nutrition; Capital Resources; Capital and Saving; Fiscal Policy; Financial policy; Foreign Aid and Investment and Debt; Trade Strategies and Development; Primary Exports and Growth; Import Substitution.

**Text:** Gillis, Perkins, Roemer and Snodgrass, *Economics of Development*, 1996.

**F-529: Production Management**

Introduction to Operations Research; Linear Programming: Formulation & Graphical method, The simplex method; The Transportation problem; The Assignment problem; Queuing models; Project management: CPM and PERT; Decision theory; Markov chains; Simulation; Goal Programming. Introduction to production Management; Consideration of Major Problems of production Area and the Use of Quantitative Methods to solve them.

**Texts:**

1. Anderson & Leivano, *Quantitative Management: An Introduction*
2. Eppen, Gould and Smidt, *Introductory Management Science*, Prentice Hall.

**F-530: Microfinance and NGO Management**

Introduction to Microfinance: An Institutional and Financial Perspective: Sustainable Banking With The Poor; The Economics Of Microfinance; Portfolios of the Poor: How the World's Poor Live on; Designing Lending Products; The Economics of Microfinance; What's Wrong With Microfinance?; Explanation of Compartamos Interest Rates; Why Are Microfinance Interest Rates so High; The Poor Always Pay Back: The Grameen II Story; Access to Finance: Ideas and Evidence—Credit Market Innovations; The Financial Access Initiative; Microfinance For Bankers And Investors: Understanding the Opportunities and Challenges of the Market at the Bottom of the Pyramid; The Commercialization of Microfinance; How Do Savings Accounts Help the Poor; Designing Savings Products; The Microfinance Revolution: Sustainable Finance for the Poor; Savings Constraints and Microenterprise Developments ; Small and Medium Enterprises; Other Access to Finance Financing Models; Community Development Investment Review.

**Professor James B. Carlson, NYU Stern School of Business**

**F-531: Real Estate Finance**

Legal Nature of real estate mortgages; Kinds and special forms of mortgages; Mortgage default and adjustments; The interest factor in real estate financing; Mortgage loans: Payment patterns and effective borrowing costs; Financing residential properties; Alternative mortgage adjustments; Sale and leaseback financing and subordinated ground leases; Real estate syndication; Mortgage market; Financing of real estate by saving and loan life insurance companies and real estate investment trust;

Mortgage banking; Real estate finance in Bangladesh - The Role of HBFC and other financial institutions' operations in Real Estate development of Bangladesh.

**Texts:**

1. Brueggman and Fisher, *Real Estate Finance and Investments* – 10<sup>th</sup> Edition, McGraw-Hill Inc., Boston, 1996.
2. Weidemer and Baker, *Real Estate Finance* – 9<sup>th</sup> Edition, South-Western Educational Pub., 2012

**F-532: Business Research Methodology and Econometrics**

Business Research Defined, Criteria of good research; When is Business Research needed? Types of research; Research and Scientific Methods; Scientific Thinking: Styles of Thinking, The thought Process; Understanding Theory – Concepts, constructs, definitions, Variables, Propositions and Hypotheses, Theory and Models; The research Process: Formulating the problem, Designing the study, sampling, Research Proposal, Pilot testing, Data Collection, Analysis and Interpretation, Reporting the Results, The value of Research Information, Decision Theory Approach; The Research Proposal; The design of Research: Exploratory Studies, Descriptive Studies, Casual Studies,- Casual relationships, Sampling Design: types, Probability Sampling-steps, Sampling Concepts & Frame, Sample Size Determination; Complex Probability Sampling-Systematic, Stratified & Cluster Sampling; Non Probability Sampling; Hypothesis Testing: Null Hypothesis, Alternative Hypothesis, Power of a Test; Measures of Association: Bivariate, Partial and Multiple Correlation; Interpretation of Correlation Coefficients; Bivariate Linear Regression, Testing the Goodness of Fit; Specification of the Model and Disturbance Term; Regression and Correlation Model (I): The Framework & mathematics of the OLS Model, The Nature of the disturbances- Assumptions on the disturbance, rank condition; Properties; Regression and Correlation and Model (II): Interpretation; Heteroscedasticity; Violation of Homoscedasticity, Implication, Test to Identify auto-correlation-Durbin-Watson Test,; Durbin's Method; Report Writing.

**Texts:**

1. C. Emory, William and Donald R. Cooper, *Business Research Methods* – 5<sup>th</sup> Edition, Richard D. Irwin Inc., 1994.
2. Dutta, M., *Econometric Methods*, South-Western Publishing Method, 1975.

**F-533: Industrial Organization**

Monopoly Pricing and Durable Goods, Price Discrimination, Empirical Models of Demand, Static Competition and Models of Differentiation, Dynamic Competition, Firm Conduct Empirical Models of Supply and Demand, Strategic Investment, Asymmetric Information, Auctions, Network, Dynamic Empirical Models, Patents and Technology Diffusion

**Text:** Tirole, Jean. *The Theory of Industrial Organization*. Cambridge, MA: MIT Press, 1988. ISBN: 0262200716.

**F-534: Working Capital Management**

Working Capital; Relationships between Current Assets and Current Liabilities; Short term and Long run view of Working Capital; Kinds of working capital; Determinants of Working Capital; Measuring working capital; Working capital cycle; Planning and forecasting working capital needs; Management of cash flows; Management of cash and marketable securities; Management of Accounts Receivables; Valuation of various types of Inventories; Current assets for working capital; Bank as a source of working capital needs.

**Texts:**

1. Scherr, F.C., *Modern Working Capital Management*, Prentice-Hall Inc., New York, 1989.
2. Maness, Terry S. and Zietlow, John T., *Short-term Financial Management - 3<sup>rd</sup> Edition*, Thompson South-Western, 2004.
3. Hampton and Celilia, *Working Capital Management – 1<sup>st</sup> Edition*, 1989.

**F-535 Market Micro Structure**

Introduction and Overview of Markets and Market Structure , Inventory cost models , Asymmetric info models: Kyle & Glosten and Milgrom , Limit order markets , Empirical measurement of trading costs Maker-taker pricing , Dark trading , High frequency trading , New trends and technologies (distributed ledger?) the nature of adverse selection in financial markets, the effects of inventory management by liquidity providers, the causes of variation in liquidity, and the process by which information becomes reflected in prices.

**Text:** Boehmer, E., J.P. Broussard, and J.P. Kallunki, 2002, *Using SAS in Financial Research* (SAS Institute, Cary).

**F-536: Corporate Finance**

Corporate Finance: Corporate Firm and Goals of Corporate Firm, Agency Costs and Set of Contract Perspective, Managerial Goals, Separation of Ownership and Control; Capital Market - Investment and Consumption Model; Review of Capital Structure; Issue of Corporate Securities - Stocks and Bonds, IPO Under pricing; Long Run Performance of IPOs; Financial Planning - Strategic Plans, Operating Plans, Financial Plans, Sales Forecast, Forecasting Financial Statements; Percentage of Sales Forecasting; Other Forecasting Methods; Mergers and Acquisitions: Forms of Acquisitions, Tax Forms of Acquisitions, Synergy from Acquisitions, Value of the Firm after Acquisitions, Reduction in Risk, Bad Reasons for Mergers, NPV of a Merger; Financial Distress: Bankruptcy, Liquidation and Reorganization; Corporate Restructuring - Corporate Alliance, Divestiture, Equity Carve out, LBO.

**Texts:**

1. Ross, Westerfield and Jaffe, *Corporate Finance- 7<sup>th</sup> Edition*, McGraw Hill Inc., Boston, 2005.
2. Brigham, Gapensky and Ehrhardt, *Financial Management – Theory and Practice – 9<sup>th</sup> Edition*, The Dryden Press, New York, 1998.
3. Van Horne, *Financial Management and Policy – 12<sup>th</sup> Edition*, Prentice-Hall Inc., New Delhi, 2001.

**F-537: Econometrics**

Introduction to forecasting; Review of basic statistical concepts, Exploring data patterns and choosing a forecasting technique; Moving averages and smoothing methods; Time Series and their components; Stationarity, autocorrelation and partial autocorrelation; Properties of an AR(1) model; Properties of an MA(1) model; ARMA models: Lag operator & eigenvalues analysis; Seasonal ARMA & ARIMA models; Unit root test I: concept & test strategies; Forecasting & forecast evaluation; ARCH models I: concept, symmetric volatility models, asymmetric volatility models.

**Text Book:** John E. Hanke and Dean W. Wichern, *Business Forecasting – 8<sup>th</sup> Edition*.

**Reference:** Spyros Makridakis, Steven C. Wheelwright and Victor E. Mcgee, *Forecasting – Methods and Applications, 2<sup>nd</sup> Edition*.  
Enders & Walter, *Applied Econometric Time Series - 3<sup>rd</sup> Edition*.

### **F-538: Financial Econometrics**

Cross-Sectional and Serially Correlated Time-Series Data o identically and independently distributed (IID) process, autoregressive (AR) process, moving average (MA) process , autoregressive and moving average (ARMA) process, martingale difference sequence , Linear Model Estimation, ergodic theorem central limit theorem (CLT), ordinary least squares (OLS) estimation, dynamically correct model dynamically misspecified model, empirical linear financial model analysis capital asset pricing model estimation, Nonlinear Model Estimation, nonlinear least squares (NLS) estimation, uniform law of large numbers (ULLN) consistence asymptotic distribution t-statistic Wald statistic Lagrange multiplier (LM) statistic quasi-likelihood ratio (QLR) statistic Correctly Specified Maximum Likelihood Estimation (MLE) MLE estimation consistence asymptotic distribution t-statistic Wald statistic LM statistic likelihood ratio (LR) statistic empirical linear financial model analysis generalized autoregressive conditional heteroskedasticity (GARCH) model estimation Quasi-Maximum Likelihood Estimation (QMLE), QMLE estimation, consistence, asymptotic distribution t-statistic Wald statistic LM statistic quasi-likelihood ratio (QLR) statistic empirical linear financial model analysis autoregressive conditional duration (ACD) model estimation.

**Text:** Principles of econometrics by R. Carter Hill; William E. Griffiths; G. C. Lim , 4th ed. Hoboken, NJ : Wiley 2011

### **F-539: Negotiations and Conflict Management**

Negotiation experiences; Cooperation and competition, Pemberton's Dilemma; Trust and distrust; Distributive negotiation; Integrative negotiation; Personality Q, Dealing with difficult negotiators; Information content and lemon problem; Dealing for compensation packages, CBA negotiations and international negotiation.

**Text Book:** Roy J. Lewicki, David Saunders and John Minton, *Essentials of Negotiation* - 3<sup>rd</sup> Ed; Irwin/McGraw Hill, 2004.

**Reference:** Roy J. Lewicki, David Saunders, John Minton and Bruce Barry, *Negotiation: Readings, Exercises, and Cases* - 4th Ed; Irwin/McGraw Hill, 2003.

### **F-540: Seminar in Finance**

The CAPM and an econometric review: Methodology: CAPM, OLS, and tests of the CAPM, Early evidence on the CAPM: Fama and French (1992), Methodology: review of asymptotics for OLS, Multifactor models I: Methodology, and standard linear Kfactor models: The Fama-French Model and critiques, General linear factor models, Methodology: GMM tests of models with an observable stochastic discount factor, Time-series properties of returns I: Predictability, Beyond the (static) CAPM a. Conditional linear factor models, b. Value, growth, and duration, Investor heterogeneity, Geometric evaluations of asset pricing model, Explaining asset price innovations, Stock return volatility, The term structure.

### **F-541: Capital Investment Decisions**

Capital Budgeting: Defining capital expenditures, Capital Budgeting Process: time value of money. Market Imperfections and Value: Strategic Matters. - Capital Budgeting Techniques: Economic evaluation of investment proposals, NPV, IRR - Economic Rationale. - NPV vs. IRR: for independent projects, for dependent projects, differences in the scale of investment rates, time horizon problem, theoretical justification for NPV. Cash Flow Estimation: Incremental cash

flows, working capital, interest, opportunity costs, sunk costs, salvage value, projects with unequal lives, impact of corporate tax, cash flow estimation process, relevant cash flows, bias in cash flow estimation, managerial options, Inflation induced Bias. - Cost of Capital: Cost of equity, cost of debt, cost of preferred stock, weighted average cost of capital, marginal cost of capital and investment decision. - Capital Budgeting under Uncertainty - Types of project risks, techniques of analyzing stand alone risk, corporate risk, market risk, risk adjusted discount rate and certainty equivalent approach, Country risk assessment, Replacement problems. Optimum Capital Budget. Capital Budgeting and leverage- Real options, types of real options, valuation of real options.

**Text Book:** Haim Levy and Marshall Sarnat, *Capital Investment and Financial Decisions*. Prentice Hall Incorporation.

**Reference:** Brigham and Ehrhardt, *Financial Management, Theory and Practice* - 10<sup>th</sup> Edition, The Dryden Press.  
Seitz and Ehrhardt, *Capital Budgeting and Long Term Financial Decisions*, The Dryden Press.

#### **F-542: Commercial Bank Management**

The Banking System: Financial Intermediation, Types of services provided by bank. Motivation behind bank behavior, bank capital, on balance sheet and off balance sheet activities, Wealth maximization of Bank in the presence of constraints. The Banking Regulatory Environment: Different types of regulation-Internal and External, Deposit Insurance. Bank Performance: Analyzing Bank Performance through UBPR, A Framework for Evaluating Bank Performance, Profitability, Risk and Operating Efficiency of a Bank. Liquidity Management: Importance, Types of Liquidity, Asset Liquidity, Liability Liquidity, Fund Management of Liquidity, Estimating Liquidity Needs, Sources and Uses of Fund Method, Structure of Deposit Method, Determining Optimum Bank Liquidity.

Managing Liabilities: Structure of Bank Liabilities, Components of Pricing Decision, Profitability and Deposit Pricing, Other Marketing Elements in Pricing, Estimating the Cost of Bank Funds, Purposes of Cost Analysis. Managing Bank Capital: An Introduction to Commercial Lending: Lending in competitive environment, The Process of Commercial Lending: An Overview and Techniques of Asset Liability Management: Influence of Rate, Volume and Mix, Alternative in managing interest rate risk, Off Balance Sheet adjustment, Calculation of RSA and RSL, Gap, Relative Gap and Interest Rate Sensitivity Ratio. Instruments used in ALM Appropriate Degree of Interest Rate Risk, Dollar Gap Management, Stress Testing: Scope, objectives, Methodology

**Text Book:**

*Commercial Banking: The Management of Risk* by Benton E. Gup and James Kolari, West Publishing Company.

Reference Book; *Commercial Bank* by Peter Rose

#### **F-543: Marketing of Financial Services**

Financial service environment; financial service consumers; identifying and targeting financial prospects; development and management of financial products; traditional channels of distribution; technology-driven distribution channels; pricing of financial services; communication and promotion; building customer relationships; customer retention and loyalty; corporate financial services. Changing patterns of bank strategy; competitor analysis; global competitiveness of financial institutions and banks; information for banks services; formulation of optimum strategy for banks in view of changing environment of banking arena.



- Text Book:**
1. Financial services Marketing, by Tina Harrison, Pearson Education Limited, Essex, England.
  2. Bank strategic management and marketing, by Derek F. Channon
  3. Selling Financial Service Production in the Era of the Euro by Andrew Nuttey

**F-544: Quantum Finance**

**Basic time series concepts:** Introduction, time series, autocorrelation, white noise processes and ARMA processes; **Modelling asset return volatility:** Introduction, volatility of asset returns, volatility modelling and forecasting methods, and methods of testing for volatility predictability; **Vector Autoregression:** Dynamic interdependencies of financial variables, VAR analysis Impulse-response function. Granger causality; **Modelling asset return volatility: extensions** ARCH/GARCH class of models, both univariate and multivariate, Multivariate extensions of the GARCH model; **Evaluating forecasts of risks and returns** statistical models use in the forecasting, whether the forecast is good or not? How do we determine which model or forecaster is best, forecast evaluation and comparison; **The efficient market hypothesis and market predictability** Methods and models for predicting aspects of asset returns, classical theory of efficient markets concept of efficient markets, evidence of predictability of financial variables and reconcile the empirical evidence for asset return predictability with the concept of an efficient; **Risk management and Value-at-Risk: models** Measuring and managing the exposure to risk generated by a trading desk, a structured product, a traditional portfolio, Value-at-Risk, common models for measuring VaR; **Risk management and Value-at-Risk: backtesting** Testing how well risk models are performing, Backtesting, methods for backtesting VaR models; **Modelling high frequency financial data** Traditionally, empirical studies in ... finance employed data at the daily and monthly frequencies. Models and methods for high frequency (intra-day) lower frequency dealing with the irregularly-spaced observations. Seasonality Diurnality, conditional variance, bid-ask spreads and in trade durations.

Texts:

1. Patton, A. (2007). Quantitative Finance, UoL Study Guide. (*AP*)
2. Christoffersen, P.F. *Elements of Financial Risk Management*. (Academic Press, London, 2003). (*PC*)
3. Enders W. Applied Econometric Time Series. 2<sup>nd</sup> ed., John Wiley & Sons, Inc., 2004 (*WE*)