JAMNALAL BAJAJ INSTITUTE OF MANAGEMENT STUDIES

UNIVERSITY OF MUMBAI

MSc FINANCE COURSE STRUCTURE AND SYLLABUS (2022-24)

PROGRAMME STRUCTURE AND SYLLABUS

CONTENTS

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P R E F A C E

The Syllabus Book presents the broad objectives, structure, and contents of our two-year full time MSc Finance course, University of Mumbai. The syllabus is directional in scope and permits the much desirable flexibility to keep pace with the ever-growing body of knowledge, technology and explorations in management education with special emphasis on the finance of enterprise.

The programme is recognized by the UGC, Delhi.

JBIMS-2022

University of Mumbai

Scheme of Assessments for courses of 4 credits (100 Marks)

- The Semester End Examination will be conducted for 60 Marks.
- Internal Assessments will be conducted for 40 Marks.

The allocation of 40 marks shall be on the following basis: -

a) Periodical class tests held in the given semester (20 Marks)

b) Presentations throughout the semester (10 Marks)

c) Attendance and Active participation in routine class instructional deliveries (05 Marks)

d) Overall Conduct as a responsible student, mannerism and articulation and exhibition of leadership qualities in organizing related academic activities. (05 Marks)

Note: A Student has to separately secure minimum 50% marks (i.e 20 out of 40) in the internal assessments and secure minimum 50% marks (i.e 30 out of 60) in the Semester End Examination in every course to be declared as Pass.

Semester I (40 Credits)

Code Course	Title	Contact Hours	Credits
COURSE 01	Economics	3 per week	4
COURSE 02	Quantitative Methods	3 per week	4
COURSE 03	Accounting & Financial Reporting	3 per week	4
COURSE 04	Financial Management	3 per week	4
COURSE 05	Costing and Control system	3 per week	4
COURSE 06	Taxation (Direct and Indirect)	3 per week	4
COURSE 07	Practical 1: Quantitative Methods	3 per week	4
COURSE 08	Practical 2: Accounting and Financial Reporting	3 per week	4
COURSE 09	Seminar Paper 01	3 per week	4
COURSE 10	Seminar Paper 02	3 per week	4
WP01	Business Communication Skills	3 per week	----

Semester I COURSE 01

Economics

Course Objectives

This course provides the student with the fundamentals of managerial decision making. The course uses structured thinking based on microeconomic theory to understand how economic fundamentals – such as demand, cost, market structure and competition – shape pricing strategies, capacity choices, and market entry decisions. The tools and concepts are ones that will repeatedly apply in your subsequent classes and in daily decisions as managers.

Course Outline

Unit I: Microeconomics

Consumer Theory: Choice, Preferences, Utility; Demand, Revealed Preferences, Comparative Statics; Consumer Surplus, Aggregation; Variations to the Basic Choice Model (Time, Uncertainty). *Producer Theory*: Technology, Profit Maximization, Cost Minimization; Supply, Aggregation Markets; Monopoly; Oligopoly and Game Theory; Walrasian Equilibrium. *Market Failures*: Externalities; Public Goods; Small Number of Agents, Nash Bargaining. *Asymmetric Information*: Adverse Selection, Moral Hazard, Principal-Agent Model; Auction Design; Voting and Other Applications.

Unit II: Macroeconomics

An overview of the modern market economy as a system for dealing with the problem of scarcity. The analysis of relationships among such variables as national income, employment, inflation andthe quantity of money.

Managing aggregate demand; fiscal policy; money and the banking system; monetary policy; the debate over monetary and fiscal policy; budget deficits in the short and long run; trade-off between inflation and unemployment.

Unit III: International Economics

Trade Theories: Ricardian Trade Model; Modern Trade Theory; Trade and Income Distribution; Alternative Trade Theories.*Trade Policy*: Commercial Policy: Tariffs and Nontariff Trade Barriers; Political Economy of Trade Policy; Economic Integration (Free Trade Agreements); International Factor Movements and Multinational Enterprises; Balance of Payments; Foreign Exchange Market; Exchange Rate Determination; Modern Exchange Rate System and Policies.

Unit IV: Financial Economics

Fundamental Theory of Finance: Absence of Arbitrage and Efficient Markets; Existence of Positive Linear Pricing Rule; Risk Neutral (Martingale) Probabilities and State Pricing. *Preferences and Uncertainty*: Expected Utility Theory; Linear Risk Tolerance Preferences; Jensen's Inequality and Risk Aversion; Ordering Preferences by Risk Aversion; Stochastic Dominance; Insurance and Certainty Equivalence; Alternative Psychological and Behavioral Approaches.

Required Texts

Economics by N. Gregory Mankiw and Mark P. Taylor (2006), Thompson Learning.

Reference Text

- Intermediate Microeconomics 7e by Varian, Hal R., W.W. Norton (2005).
- Macroeconomics 6e by Abel, Bernanke, and Croushore, Prentice Hall (2007).

Quantitative Methods

Course Objectives

The quantitative methods course emphasizes achieving an understanding of quantitative methods and associated statistical techniques considered so that the student can think critically about suitable procedures for research design, collection and analysis of data, and the usefulness of statistics.

Course Outline

UNIT I

1. *Review of basic probability models*; combinatorics; random variables; discrete and continuous probability distributions.

2. *Generating Functions*: Discrete Distributions; Branching Processes; Continuous Densities.

3 *Markov Chains*: Introduction; Absorbing Markov Chains; Ergodic Markov Chains; Fundamental Limit Theorem; Mean First Passage Time.

UNIT II

4. *Random Walks*: Random Walks in Euclidean Space; Gambler's Ruin; Arc Sine Laws

5. *Inferential Statistics*: Estimating and Confidence intervals; Hypothesis testing; Non-parametric tests.

UNIT III

6. *Financial Calculus*: Taylor series; Ordinary differential equations; Similarity solutions; Brownian motion; Stochastic differential equations; Itô's lemma; Continuous-time stochastic differential equations as discrete-time processes; Correlated random walks; Using Itô's lemma to manipulate stochastic differential equations.

UNIT IV

7. *Mathematical Programming*: Linear Programming; Solving Linear Programs graphically; Simplex Method; An introduction to non-linear programming.

Required Texts

- Probability and Random Processes by Grimmett and Stirzaker, Oxford University Press (1997).
- Time Series Analysis by J.D. Hamilton, Princeton University Press (1994).
- Quantitative Finance 2e by Paul Wilmott, John Wiley (2007)
- Mathematics for Financeby Marek Capiński and Tomasz Zastawniak, Springer (2003).

Reference Text

Methods of Mathematical Finance by IoannisKaratzas, Steven E. Shreve (Springer) 2011.

Semester I COURSE 03

Financial Accounting, Reporting &Analysis

Course Objectives

This course will explore the main items within corporations' financial statements and how financial information is communicated to external parties. It will look at financial accounting from an international accounting perspective. Additionally, the course will examine consolidation policies and accounting for international corporations.

Course Outline

UNIT I

1. Context and Purpose of Financial Accounting: Nature of financial and managerial accounting information; accounting profession and accounting careers; accounting equation; Core financial statements.
2. The Use of Double-Entry and accounting systems: Accounts, debits and credits; The journal; The general ledger; Trial balance; Computerized processing systems; T-Accounts; Double-entry book-keeping principles including the maintenance of records and sources of information; Recording Transactions and events - Sales and purchases; cash; stock; tangible fixed assets; depreciation; intangible fixed assets and amortisation; accruals and prepayments; debtors and creditors; provisions and contingencies; capital structure and finance costs.

UNIT II

3. Income Measurement: Measurement transactions and events; periodicity assumption and its accounting implications; Basic elements of revenue recognition; Basic elements of expense recognition; adjusting process and related entries; Accrual versus cash-basis accounting.
4. Context and Purpose of Financial Reporting: The reasons for and objectives of financial reporting; users' and stakeholders' needs; the main elements of financial reporting.
5. The qualitative characteristics of financial information: Define, understand, and apply accounting concepts, including concept of true and fair view, going concern, accruals, consistency, materiality, relevance, reliability, substance over form, neutrality, prudence, completeness, comparability, understandability, and business entity concept.

UNIT III

6. Regulatory Framework of Accounting: Reasons for existence of a regulatory framework; legal provisions relating to accounting; setting Indian accounting standards, convergence of international accounting standards, International Financial Reporting Standards (IFRS).
7. Accounting Analysis: Accounting and Analysis of Asset: Historical cost and conservatism, asset reporting challenges, common misconceptions about asset accounting.
8. Accounting and Analysis of Liability and Equity: Liability definition and reporting challenges; common misconceptions about liability accounting; equity definition and reporting challenges.

UNIT IV

9. Revenue Analysis: Revenue recognition rule, revenue recognition challenges
10. Expense Analysis: Matching and conservatism, expense reporting challenges
11. Interpretations of financial statements: Ratio analysis; cash flow analysis; funds flow analysis; value added statements; limitations of financial statements; Calculation and interpretation of accounting ratios and trends to address users' and stakeholders' needs; limitations of interpretation techniques.

Required Texts

Financial Reporting and Analysis by Lawrence Revsine, Daniel Collins, Bruce Johnson, Fred Mittelstaedt McGraw-Hill (2011).

Reference Text

International Financial Reporting and Analysis by Alexander, Britton, Jorissen Thomson (2007).

Semester I COURSE 04

Financial Management

Course Objectives

The course is designed to provide an understanding of the essential elements of financial management and the financial environment in which the business firm operates. The paper will examine the objective of shareholder wealth maximization which encompasses much of modern corporate finance and its implication for decision making in the present context.

Course Outline

UNIT I

1 Introduction: Role of the corporate financial manager (CFO); corporate finance decisions; goals of firm - profit maximization v. shareholders' wealth maximization; basic responsibilities of financial managers; social responsibility of the firm; agency relationships and conflicts.

UNIT II

2 Environment of finance: Financial markets – capital markets (equity markets, debt market), money markets, foreign exchange market, and derivatives markets; term loans and leases; accounting treatment of leases; convertibles, and warrants.

3 Valuation Concepts: Future values and compound interest; present values; level cash flows: perpetuities and annuities; valuation of long-term securities; risk and return; measuring portfolio risk.

UNIT III

4 Financial Planning: Introduction to financial planning; financial planning models; components of a financial planning model; pitfalls in model design; role of financial planning models; external financing and growth; deferred taxes and financial analysis; sustainable growth modeling.

5 Working Capital Management and Short-Term Planning: Components of working capital, working capital and the cash conversion cycle, working capital trade-off; links between long-term and short-term financing; tracing changes in cash and working capital; cash budgeting, forecast sources of cash, forecast uses of cash, a short-term financing plan, options for short-term financing, evaluating the plan, sources of short-term financing; cash management, management of account receivables.

UNIT IV

6 Investment in Capital Assets: Capital budgeting and estimating cash flows; capital budgeting techniques; multiple internal rates of return; replacement chain analysis; risk and managerial options in capital budgeting.

7 Cost of Capital, Capital Structure, and Dividend Policy: Required returns and the cost of capital; operating and financial leverage; capital structure determination; theories of capital structure; dividend policy; theories of relevance and irrelevance of dividend policy.

Required Text

Fundamentals of Financial Management by Eugene F. Brigham, Joel F. Houston (2011), South Western (Cengage Learning)

Reference Text

Fundamentals of Financial Management by James C. Van Horne, John M. Wachowicz (2008), Prentice Hall.

Semester I

COURSE 05

Costing and Control System

Course Objectives

This course will help to understand costing and management accounting techniques that could be utilized for decision making and control.

Course Outline

UNIT I

1. Preparation of Cost sheet
2. Method of Costing

UNIT II

3. Process Costing
4. Absorption Costing, Marginal Costing, Cost Volume Profit Analysis and Decision Making
5. Relevant Cost and Differential Cost

UNIT III

6. Budgetary Controls
7. Standard Costing

Unit IV

8. Inventory Management and Cost Audit (An Overview)
9. Activity Based Costing
10. Application of Costing concepts in the Service and Trading Sector

Reference Text:

- **Horngren's Accounting** (12e) by Tracie L. Miller-Nobles, Brenda L. Mattison, Ella Mae Matsumura (2017). New Delhi: Pearson (India) Limited.
- Management Accounting for profit control by Keller & Ferrara
- Cost Accounting for Managerial Emphasis by Horngreen
- T. P. Ghosh: Financial Accounting for managers(Taxmann).

Semester I COURSE 06

Taxation (Direct and Indirect)

Course Objectives

The objective of the course is to introduce concepts of taxation; the issues in computation of taxable income under different heads of income tax; assessment of tax and filing of returns; and provide an understanding of goods and service tax.

Course Outline

Unit I

Direct Tax: Income Tax Act and rules

UNIT II

Computation of Total Income and Determination of Tax Liability – individuals and Companies

UNIT III

Indirect Taxes: Central Excise and CENVAT, Customs Duty, Service Tax

UNIT IV

Central Sales Tax and VAT, Maharashtra Value Added Tax and Primer on GST

Reference Text:

Taxation Growth and Fiscal Institutions by Albert Lee

Semester I COURSE 07

Practical 1: Quantitative Methods

The application of the following topics to real world issues in Finance:

1 *Generating Functions*: Discrete Distributions; Branching Processes; Continuous Densities.

2 *Markov Chains*: Introduction; Absorbing Markov Chains; Ergodic Markov Chains; Fundamental Limit Theorem; Mean First Passage Time.

3 *Random Walks*: Random Walks in Euclidean Space; Gambler's Ruin; Arc Sine Laws

4 *Inferential Statistics*: Estimating and Confidence intervals; Hypothesis testing; Non-parametric tests.

5 *Financial Calculus*: Taylor series; Ordinary differential equations; Similarity solutions; Brownian motion; Stochastic differential equations; Itô's lemma; Continuous-time stochastic differential equations as discrete-time processes; Correlated random walks; Using Itô's lemma to manipulate stochastic differential equations.

6 *Mathematical Programming*: Linear Programming; Solving Linear Programs graphically; Simplex Method; An introduction to non-linear programming.

Assessment:

Final submission of practical report followed by viva: 60 marks| Internal assessment: 40 marks

Practical 2:
Financial Accounting, Reporting and Analysis

1 Analysis of an annual report of a listed company.
2 Analysis of a prospectus issued by a company launching an initial public offering (IPO)
3 Analysis of an industry report prepared by a major brokerage house.

Assessment:

Final submission of practical report followed by viva: 60 marks| Internal assessment: 40 marks

Seminar Based Paper

Plan: In each semester, students will be having two seminar paper on topics related to financial dynamics and other finance courses in same semester.

Action: The topics under each theme will be covered by faculty by use of mix teaching techniques for seminar based paper like Interactive lectures on relevant topics , Active Learning, Experiential learning, Group Work and Case Method. There will be hands on training and workshops on required topics under each seminar paper to make it more practical and fruitful.

Assessment: **Continuous evaluation based on presentation**
Submission of research paper
(Total: 100 Marks)

Guidelines for preparation of research paper:

- The topic of the research paper has to be selected by the student and approved by the guide.
- The selected topic should fulfil the objectives of the course theme.
- Length of research paper: Approximately 10 pages.
- Resources to refer: Books (including eBooks), Journals especially peer reviewed and ABDC Journals (including e-Journals), data bases, web sites, reports.

Structure of the Seminar Paper:

The structure should be organized and well-researched. Technical writing skills should be crucial in organizing your ideas. The following is the seminar paper rubric, abstract, or layout that you should follow in presenting your argument or topic:

COVER PAGE: Align the text containing your name, course number, your faculty mentor's name and the date of the deadline.

ABSTRACT: Usually less than a page long, the abstract describes your paper. It lets the readers know where the paper is headed, the issue at hand and why the subject was interesting or important enough that you decided to write about it.

INTRODUCTION: The introduction should begin with a statement on the topic to be discussed. Give current business events that are linked or explain the significance of the problem at hand. Write about how you plan to resolve the issue.

Body: The body of your text should contain the synthesis of your research. Provide information **ABOUT** the topic so that the reader can further understand what is being discussed. Don't forget certain positions pertaining to the issue and the analysis of the research you have done.

RESULTS: Explain why your research has led you to believe certain things about your subject. How has your view changed from when you began the project? Has it stayed the same, and why? Tie everything you've been explaining into what you started saying in your introduction.

DISCUSSION: End with a summary and a conclusion about the topic in question. Finish by stating an opening question or by prompting the reader to continue his or her own research on the subject through a discussion.

Semester I WP-01

Business Communication Skills

(Workshop)

The aim of this seminar paper is to develop skills and competencies in participants to be able to communicate effectively through the written and oral medium. Sensitivity towards cross cultural communication will be developed with familiarity with global business etiquette and protocols. The pedagogical focus of the course will be workshop based with emphasis on practice and skills development

1. Introduction to business or managerial communication
2. Principles of nonverbal communication through clothes and body language
3. Types of managerial speeches
    - speech of introduction
    - speech of thanks
    - occasional speech
    - theme speech
4. Mastering the art of giving interviews in
    - selection or placement interviews
    - discipline interviews
    - appraisal interviews
    - exit interviews
5. Group communication by way of
    - Meetings
    - group discussions
6. Introduction to business writing

7. Business letters
    - routine letters
    - bad news and persuasing letters
    - sales letters
    - collection letters
    - job application letters
8. Internal communication through
    - memos, minutes, notices
    - reports
9. Principles governing the use of audiovisual media
10. Principles of Effective Presentations
11. Business and social etiquette
12.Email etiquettes
13. Workshop on Personal Interview

Semester II (40 Credits)

Code Course	Title	Contact Hours	Credits
COURSE 01	Corporate Governance & Regulatory Environment	3 per week	4
COURSE 02	Corporate Finance	3 per week	4
COURSE 03	Econometrics and Financial Modelling	3 per week	4
COURSE 04	Financial Markets and Institutions	3 per week	4
COURSE 05	Fixed Income Securities	3 per week	4
COURSE 06	Investment Banking and PEVC	3 per week	4
COURSE 07	Practical 3: Econometrics and Financial Modelling	3 per week	4
COURSE 08	Practical 4: Fixed Income Securities	3 per week	4
COURSE 09	Seminar Paper 03	3 per week	4
COURSE 10	Seminar Paper 04	3 per week	4

Semester II COURSE 01

Corporate Governance and Regulatory Environment of Finance

Course Objective

This course will acquaint the participants with the fundamentals and practices of corporate governance in India and other countries in the light of the prevailing legal provisions and codes of good governance.

Course Outline

UNIT I

1 Corporate Governance: Objectives; definitions and importance of corporate governance; reputation, competition and corporate governance; corporate ethics; corporate governance and corporate responsibility; globalization and corporate governance; Models of corporate governance; mechanisms of corporate governance.

2 Shareholders and Stakeholders: Shareholder rights; equitable treatment; responsibilities of shareholders; minority shareholders' protection; stakeholder protection.

3 Board of Directors: Structure and independence of the board; responsibilities and duties of the board; selection, remuneration and evaluation of the board; board committees; the board and the management.

4 Audit Committee: Organization of audit committee; responsibilities of the audit committee; working with auditors and management.

UNIT II

5 Code of Corporate Governance: SEBI Code of Corporate Governance (Narayan murthy Committee Report); Ministry of Finance (Naresh chandra Committee Report); US Sarbanes-Oxley Act of 2002; The UK Corporate Responsibility Act 2002.

6 Economic Rationale of Financial Regulation: Externalities; market imperfections and failures; economies of scale in monitoring; moral hazard; mandatory versus voluntary disclosure; regulation and competition; alternative approaches to regulation.

UNIT III

7 Legal Framework of Capital Markets: Securities Contracts (Regulation) Act, 1956, and Securities Contracts (Regulation) Rules, 1957; Foreign Exchange Management Act (FEMA); Overview of relevant provisions of the Companies Act, 1956, Indian Stamp Act, Registration Act, Competition Act; , Stock exchanges – trading rules, listing agreement, enforcement of listing compliances; Banking Regulation Act; Reserve Bank (Board for Financial Supervision (BFS)) Regulations.

8 SEBI Regulations and Guidelines: SEBI Act, 1992; SEBI (ICDR) Regulations; SEBI (Insider Trading) Regulations; SEBI (Substantial Acquisition of Shares and Take Over) Regulations; SEBI (Buyback of Securities) Regulations; SEBI (Foreign Institutional Investors) Regulations.

9 Regulation of Mutual Funds: SEBI (Mutual Funds) Regulations; taxation of a mutual fund - resident unit holders, non-resident individual unit holders, non-resident unit holders being a company; Regulation of Overseas Investment in the Domestic Mutual Fund Sector - Setting up an AMC, Investing via a Domestic Mutual Fund, Investing as a FII in an Indian mutual fund, role of self-regulatory organisations.

UNIT IV

10 Overview of Regulatory Bodies: Reserve Bank of India, Securities Exchange Board of India, Forward Market Commission, Insurance Regulatory Development Authority, Providend Fund Regulatory and Development Authority, Ministry of Finance, Ministry of Corporate Affairs, Registrar of Companies.

11 International Financial Regulation: Challenges of international regulation of financial markets; overview of financial regulation in USA, UK, EU.

Required Text

- Corporate Governance by Robert A. G. Monks and Nell Minow (2011), Wiley.
- Company Law: Theory, Structure, & Operation by Cheffins (1997), Clarendon Press.
- Global financial regulation by Howard Davies, David Green (2008) Polity Press.

Reference Text

- Sebi Manual 16e Taxmann Publications Pvt. Ltd, 2011
- Foreign Exchange Management Manual Taxmann Publications Pvt. Ltd, 2011

Semester II COURSE 02

Corporate Finance

Course Objective

This course explores the foundations of financial theory through of the analysis of the financial situation of a business and drivers of the cost of capital, the evaluation of capital investment decisions, and the determination of the optimal capital structure. The student will also cover advanced corporate finance topics like dividend and buy back policy, corporate restructuring, issuance of securities, agency problems, asymmetric information, or executive compensation policies.

Course Outline

UNIT I

1 Framework for Financial Decisions: An overview of financial decisions; the financial environment; bond and share valuation.

2 Investment Decisions and Strategies: Investment appraisal methods; project appraisal – applications; investment strategy and process.

3 Value, Risk and the Required Return: Analysing investment risk; identifying and valuing options; relationships between investments: portfolio theory; setting the risk premium: the capital asset pricing model; the required rate of return on investment; enterprise value and equity value.

UNIT II

4 Valuation: Conceptual framework of valuation; approaches and methods of valuation - asset-based approach, earnings based approach, discounted cash flow approach, market value based approach, relative valuation approach, real options approach, selection of approach; applications of valuation methods to valuation of different types of companies.

5 Short-Term Financing and Policies: Treasury management and working capital policy; short-term asset management; short - and medium-term finance;

UNIT III

6 Strategic financial decisions: Long-term finance; returning value to shareholders: the dividend decision; capital structure and the required return; relevance of capital structure; acquisitions and restructuring; Operating Leverage; Dividend Policy; Pricing Strategy; Asset-Liability Management.

7 Corporate Performance Management: Execution Problem; Balanced Scorecard; Real-time Financial Systems: Corporate Performance Management (CPM); Integrated Financial Management

UNIT IV

8 International Financial Management: Overview of market for foreign currencies; foreign exchange risks –transaction, translation, and economic risks; managing currency risk; foreign investment decisions.

Required Text

Corporate Finance by Stephen A. Ross, Randolph Westerfield, Jeffrey Jaffe (2006), McGraw-Hill/Irwin.

Reference Text

Corporate Finance: Linking Theory to What Companies Do by John Graham, Scott B. Smart, William L. Megginson (2008), South Western Cengage Learning.

Semester II COURSE 03

Econometrics & Financial Modelling

Course Objective

The course is divided into two sections. Section I covers basic econometrics and Section II covers quantitative models as applied to functional specialisations. The objective of Section I is to prepare students for basic empirical work in economics. In particular, topics will include basic data analysis, regression analysis, testing, and forecasting. Section II aims at exposing the students to various fundamental and emerging models in finance, marketing, operations and supply chain management, and human resource management.

Course Outline

UNIT I : Econometrics

1. Introduction to econometrics
2. Univariate regression model
3. Multivariate regression model

UNIT II

4. Use of Dummy variables
5. Relaxation of assumptions of CLRM: multicollinearity, heteroskedasticity, autocorrelation and endogeneity
6. Time series data analysis and Times series econometric forecasting models
7. Panel data analysis: Simultaneous use of cross sectional and time series data

UNIT III: Financial Modelling

1 Preliminaries: Introduction financial modelling; objectives of financial modelling; spreadsheet features, techniques; best practices in spreadsheet design.

2 Systematic Design Method: Model Design and structure; Building business case models; spreadsheet techniques and methods.

3 Auditing and Testing: Essential testing and auditing techniques; Testing financial analysis model with cash flows and ratios; Debugging and checking a financial model.

4 Macros and Security: Writing and auditing and macros; Spreadsheet security.

UNIT IV

5 Forecasting Models: Review of forecasting methods; financial "drivers"; Adding forecasts to the case models.

6 Risk Techniques: Risk and multiple answers; Scenario techniques; Advanced financial functions; adding sensitivity to the case model; Advanced scenario methods; Composite methods.

7 Optimisation and Targeting: Overview of optimisation and targeting; Goal seek and Solver methods; optimising the case model.

8 Management Reporting: Requirement to consolidate and summarise data; consolidating data from different sources; spreadsheet report managers; pivot tables; Techniques for summarising data; producing a management analysis.

9 Model Completion: Model review; Documentation; Final audit.

Reference Text:

- Introductory Econometrics 4e by Wooldridge, J. South-Western Cengage Learning (2009).
- Financial Modeling 3e by S Benninga, MIT Press (2008).

Semester II COURSE 04

Financial Markets and Institutions

Course Objective

The course aims to help students to appreciate and understand how financial markets and institutions operate. It introduces financial institutions and other market participants, their roles in the financial system and the ways they interact with each other. A second and equally important objective is to help students to understand commonly used financial instruments and how they work.

Course Outline

UNIT I

1 Introduction: Determination of Interest Rates; Interest Rates and Security Valuation; Monetary Policy, and Interest Rates.

2 Securities Markets: Money Markets; Bond Markets; Mortgage Markets; Stock Markets; Foreign Exchange Markets; Derivative Securities Markets.

UNIT II

3 Banks: Industry Overview; commercial banks, cooperative banks; microfinance institutions; Banks' Financial Statements and Analysis; Regulation of banks.

4 Nonbank Financial Institutions: Lending Institutions; Finance Companies; NBFCs; Insurance Companies; depositories and depository participants, clearing corporations, Brokerage Firms; Merchant and Investment Banks; Mutual Funds and Hedge Funds; Pension Funds; registrars and transfer agents, credit rating agencies, portfolio management services, asset reconstruction companies; money market institutions – primary dealers, DFHI, CCIL, FIMMDA; insurance institutions – life insurance companies, non-life insurance companies, actuaries.

UNIT III

5 Regulatory bodies – Self Regulatory Organisation (SROs), SEBI, RBI, IRDA. International financial institutions – Federal Reserve Bank (US); Bank of England; European Central Bank; Securities Exchange Commission (SEC).

UNIT IV

6 Risk Management In Financial Institutions: Types of Risks Incurred by Financial Institutions; Managing Credit Risk on the Balance Sheet; Managing Liquidity Risk on the Balance Sheet; Managing Interest Rate Risk and Insolvency Risk on the Balance Sheet; Managing Risk off the Balance Sheet with Derivative Securities; Managing Risk off the Balance Sheet with Loan Sales and Securitization.

Required Text

Financial Markets and Institutions by Bhole, Tata McGraw-Hill (2009).

Reference Text

Financial Markets and Institutions 4/e by Saunders and Cornett, McGraw-Hill (2009).

Semester II COURSE 05

Fixed Income Securities Market

Course Objective

The objective of this course is to give the participants an in – depth knowledge of the investment in fixed income generating securities.

Course Outline

UNIT I

1 Understanding Forward Rate Analysis and Yield curves

Term structure of interest rates and forward rate analysis; yield measures; analysing changes in the yield curve.

2 Framework for Analysing Bonds

Cash flows for typical bond structures; time value of money; annuities; bond yields: coupon, current, yield to maturity (YTM), yield to call, realised yield; yield conventions; yield decomposition: current yield, interest upon interest, pull-to-maturity; duration; modified duration; convexity and relative convexity. yield curve analysis - coupon yield curve and the spot curve, interpretations of the yield curve, pricing bonds using the yield curve; implications of duration and convexity for bond analysis; using horizon analysis to evaluate bond strategies; analysis of bonds with embedded options; asset and mortgage backed security analysis.

UNIT II

3 Risk Analysis for Bonds

Sources of risk - credit risk; interest rate risks; reinvestment risks; liquidity; calls on bonds; analysis of corporate bond risk; analysing rating agencies criteria – Moodys, Standard and Poors; risks involved in treasury securities; price volatility and interest rate volatility; sources of interest rate volatility; key ratios for interest rate sensitivity.

UNIT III

4 Fixed Income Strategies

Passive fixed income strategies; active fixed income strategies; common strategies - buy and hold, bullets and barbells, butterflies, ladders, immunization, hedging.

UNIT IV

5 Fixed Income Fund Management Practice

Constructing a fixed income portfolio, importance of asset allocation, funding liabilities, asset liability management (ALM), balanced fund approach.

Required Texts

- Fixed Income Securities: Tools for Today's Markets, 2nd ed. by Bruce Tuckman, Wiley.
- Understanding and Managing Interest Rate Risks, by Ren-Raw Chen, World Scientific.
- Options, Futures, and Other Derivatives 6e by John C. Hull, Pearson/Prentice Hall.

Reference Texts

- Credit Derivatives, by M. Ansen, F. Fabozzi, M. Choudhry, and R.-R. Chen, Wiley.

Semester II

COURSE 06

Investment Banking and PEVC (Private Equity and Venture capital)

Course Objective

This course delves into the structure, management and practices of investment banking (IB)— from larger more universal players to boutique operations. It covers the business activities of mergers and acquisitions, financing and investment; and, the creation of value through advisory services and the choices of client business models. It looks into the business practices of private equity, hedge funds and trading operations; and, the role of each in facilitating investment, the deployment of capital and the changing face of risk-taking activities.

Course Outline

UNIT I: Investment Banking

- Introduction: Overview of Investment Banking

Corporate debt and underwriting procedures securitization and asset backed debt securities, high yield debt investment bankers as traders and market-makers, private placements

- Investment Process

Methods - Sources of funding/investor decision making – Credit borrowing Vs Issuing Equity - Analysis of funding options: bank borrowing, cross currency, private placements, private equity, public stock/bond market, high yield market, floating rate vs. fixed rate borrowing, equity vs. convertible securities Disinvestments mechanism — Incentives — Future Prospects

UNIT II

- Mergers & Acquisitions

Introduction to valuation of companies; the law of mergers & acquisitions, markets for takeover stocks and risk arbitrageurs restructuring: theory of adding value, LBOS, practice of adding value

- How Investment Bankers Compete

Developing new business, international business, professional standards and management,Structure of banking industry, major developments in India, and in international capital markets 1975-1997: legal basis of corporate finance and investment banking.

UNIT III: Private Equity and Venture Capital (PEVC)

- Private equity and venture capital in the financial system:
- The special role of private equity and venture capital industry: why are they necessary in a modern economy?
- Market trends in Europe and in US.
- Competitive models of private equity and venture capital: angels and informal investors; incubators; start-up financer; closed-end funds; merchant banks; vulture funds.

- Regulatory and legal issues:
- Regulations and supervision towards investing in non-financial firms.
- The functioning of private equity fund: management fee and carried interest; managers and investors.

UNIT IV

- Legal and fiscal issues for venture capital investment schemes: European versus US and UK patterns (closed-end fund, venture capital fund, Sbic, VCT, angel investing).
- Management of a private equity and a venture capital fund:
- Introduction to different categories of investment: new ventures, start up, young firms, high potential firms, family owned firms and turnaround involved companies.
- The value chain of investing in firms: a broad vision.
- The valuation of the target company: how to evaluate and how to manage the deal?
- Management issues: managing the single investment, funding process, managing the portfolio of investments, exit way process

Reference Text:

Stowell, David P., Investment Banks, Hedge Funds and Private Equity, Academic Press, 2013

Practical 3: Econometrics and Financial Modeling

The application of the following topics to real world issues in Finance:

1 A Econometrics

1 Univariate regression model.
3 Multivariate regression model.
4 Dummy variables, heteroskedasticity, endogeneity.
5 Time series data analysis
6 Times series regression model
7 Panel data analysis: Simultaneous use of cross sectional and time series data
8 Endogeneity: Instrumental variables and simultaneous equations.

B Financial Modelling

1 Forecasting Models: Review of forecasting methods; financial "drivers"; Adding forecasts to the case models.
2 Risk Techniques: Risk and multiple answers; Scenario techniques; Advanced financial functions; adding sensitivity to the case model; Advanced scenario methods; Composite methods.
3 Optimisation and Targeting: Overview of optimisation and targeting; Goal seek and Solver methods; optimising the case model.
4 Management Reporting: Requirement to consolidate and summarise data; consolidating data from different sources; spreadsheet report managers; pivot tables; Techniques for summarising data; producing a management analysis.

Assessment:

Final submission of practical report followed by viva or test: 60 marks| Internal assessment: 40 marks

Practical 4: Fixed Income Securities Analysis

Application of the following topics for solving real world problems in the area of fixed income securities market:

1 Analysing Bonds

Cash flows for typical bond structures; time value of money; annuities; bond yields: coupon, current, yield to maturity (YTM), yield to call, realised yield; yield conventions; yield decomposition: current yield, interest upon interest, pull-to-maturity; duration; modified duration; convexity and relative convexity. yield curve analysis - coupon yield curve and the spot curve, interpretations of the yield curve, pricing bonds using the yield curve; implications of duration and convexity for bond analysis; using horizon analysis to evaluate bond strategies; analysis of bonds with embedded options; asset and mortgage backed security analysis.

2 Risk Analysis for Bonds

Sources of risk - credit risk; interest rate risks; reinvestment risks; liquidity; calls on bonds; analysis of corporate bond risk; analysing rating agencies criteria – Moodys, Standard and Poors; risks involved in treasury securities; price volatility and interest rate volatility; sources of interest rate volatility; key ratios for interest rate sensitivity.

3 Fixed Income Strategies

Passive fixed income strategies; active fixed income strategies; common strategies - buy and hold, bullets and barbells, butterflies, ladders, immunization, hedging.

4 Fixed Income Fund Management Practice

Constructing a fixed income portfolio, importance of asset allocation, funding liabilities, asset liability management (ALM), balanced fund approach.

Assessment:

Final submission of practical report followed by viva: 60 marks| Internal assessment: 40 marks

Seminar Based Paper

Plan: In each semester, students will be having two seminar paper on topics related to financial dynamics and other finance courses in same semester.

Action: The topics under each theme will be covered by faculty by use of mix teaching techniques for seminar based paper like Interactive lectures on relevant topics , Active Learning, Experiential learning, Group Work and Case Method. There will be hands on training and workshops on required topics under each seminar paper to make it more practical and fruitful.

Assessment: **Continuous evaluation based on presentation**
Submission of research paper
(Total: 100 Marks)

Guidelines for preparation of research paper:

- The topic of the research paper has to be selected by the student and approved by the guide.
- The selected topic should fulfil the objectives of the course theme.
- Length of research paper: Approximately 10 pages.
- Resources to refer: Books (including eBooks), Journals especially peer reviewed and ABDC Journals (including e-Journals), data bases, web sites, reports.

Structure of the Seminar Paper:

The structure should be organized and well-researched. Technical writing skills should be crucial in organizing your ideas. The following is the seminar paper rubric, abstract, or layout that you should follow in presenting your argument or topic:

COVER PAGE: Align the text containing your name, course number, your faculty mentor's name and the date of the deadline.

ABSTRACT: Usually less than a page long, the abstract describes your paper. It lets the readers know where the paper is headed, the issue at hand and why the subject was interesting or important enough that you decided to write about it.

INTRODUCTION: The introduction should begin with a statement on the topic to be discussed. Give current business events that are linked or explain the significance of the problem at hand. Write about how you plan to resolve the issue.

Body: The body of your text should contain the synthesis of your research. Provide information ABOUT the topic so that the reader can further understand what is being discussed. Don't forget certain positions pertaining to the issue and the analysis of the research you have done.

RESULTS: Explain why your research has led you to believe certain things about your subject. How has your view changed from when you began the project? Has it stayed the same, and why? Tie everything you've been explaining into what you started saying in your introduction.

DISCUSSION: End with a summary and a conclusion about the topic in question. Finish by stating an opening question or by prompting the reader to continue his or her own research on the subject through a discussion.

Semester III (40 Credits)

Code Course	Title	Contact Hours	Credits
COURSE 01	Technical Analysis	3 per week	4
COURSE 02	Portfolio Analysis and Management	3 per week	4
COURSE 03	Derivatives	3 per week	4
COURSE 04	Mergers, Acquisitions and Corporate Restructuring	3 per week	4
COURSE 05	Risk in Financial Services	3 per week	4
COURSE 06	Practical 5: Technical Analysis	3 per week	4
COURSE 07	Practical 6: Portfolio Analysis and Management	3 per week	4
COURSE 08	Seminar Paper 05	3 per week	4
COURSE 09	Seminar Paper 06	3 per week	4
COURSE 10	Summer Project	NA	4

Semester III COURSE 01

Technical Analysis

Course Objective

This course fulfills the objective of providing all relevant tools and techniques to understand the various facets of the capital market covering practical exposure.

Course Outline

UNIT I

1 Background and Basics

Technical analysis as an integral part of market analysis; History of technical analysis.

2 Constructing and Interpreting Charts

Tools - the construction of different types of charts - line chart, bar chart, point and figure chart, candlestick charts etc.; What to Look for on the Charts.

3 Trends

Basics of pattern recognition; determination of price trends; support and resistance levels; real time presentations at end of session; moving averages; gaps; volume; comparative relative strength.

UNIT II

4 Phases of Price Activity and Pattern Recognition

Phases of price activity - pattern recognition on bar charts, pattern recognition on point and figure charts, pattern recognition on candlestick charting; turning points; continuation patterns; climax; candlesticks; volume; point and figure; behavioral; pairs trading / derivatives.

5 Technical Analysis Theories

Dow theory, Elliott wave theory, Fibonacci sequence, Gann analysis, Cycle analysis.

UNIT II

6 Technical Indicators

RSI indicator; Stochastics; Rate of change (RoC) indicator; MACD; Bollinger bands; Moving averages.

7 Sentimental Indicators

Volatility index (VIX), Put/call ratio, Bull/bear indicators, Dow's psychology of bull and bear markets, Insider activity

8 Applying technical analysis to bonds, currencies, futures and options.

UNIT IV

9 Technical Analysis and Portfolio Management,Technical analysis tools for sentiment; Efficient market considerations; Short versus long trading strategies; Risk tools; Advanced derivative use and technical analysis; Quant tools.

Reference Text:

Technical Analysis: The Complete Resource for Financial Market Techniciansby By Charles D. Kirkpatrick, Julie R. Dahlquist (2011), Pearson Education.

Semester III COURSE 02

Portfolio Analysis and Management

Course Objectives

The course objective is to acquaint students with the theoretical foundation of modern portfolio theory, the major groups of investors and their investment objectives and constraints, and to master practical skills in investment management, forming capital market expectations and forecasting markets activity to justify major investment portfolio management strategy for equity and fixed-income instruments.

Course Outline

UNIT I

1 Efficient Market Hypothesis (EMH)

Efficient market hypothesis conceptual underpinnings; empirical studies and anomalies of efficiency; implications of the EMH for investment analysis.

2 Modern Portfolio Theory

Measures of uncertainty and risk; Markowitz (Mean Variance) Efficient Frontier; introduction of a risk free asset; Capital Asset Pricing Model – CAPM; Critique of CAPM; arbitrage pricing theory – APT; single index models for portfolio construction.

UNIT II

3 Investment policy and portfolio creation

A framework for investment policy; investment policies and practices for institutions and individuals; monitoring and re-balancing asset allocation with respect to risk, return and investment policy; case studies in investment management; investment strategies - passive to active; structuring an international investment strategy.

UNIT III

4 Performance Attribution Analysis

Evaluation of portfolio performance; traditional measures – Sharpe, Treynor, Jensen; decomposition of portfolio performance; cases in portfolio decomposition; performance attribution support systems; value at risk (VaR) measurement.

5 Measurement and Presentation of Portfolio Returns

Global investment performance standards.

UNIT IV

6 Stock Market Indices

Types of indices; Index versions; free-float indices; Weighting, capitalization-weighted index; Criticism of capitalization-weighting; Indices and passive investment management. Applications - overview of NSE and BSE indices.

Required Texts

Modern Portfolio Theory and Investment Analysis by Edwin J. Elton, Martin J. Gruber, Stephen J. Brown, William N. Goetzmann (2010), John Wiley and Sons.

Reference Text

Quantitative Methods for Portfolio Analysis by TakeakiKariya (1993), Kluwer Academic Publishers.

Derivatives

Course Objective

This course will analyze the foundations of derivatives, their valuation, and how they are used to manage risk and for investment decisions. The student will learn the management of financial risk as well as the different techniques available to measure said risk. The course will also cover the evaluation of financial risks both in financial and non-financial institutions and the role of risk management within the overall corporate strategy.

Course Outline

UNIT I

1 Evolution of Derivatives: Concept of derivatives, definitions, purposes and criticisms; derivative markets; past and present; difference between exchange traded and OTC derivatives; derivative market participants - hedgers, arbitrageurs and speculators.

2 Forward Market and Products: Structure and role of global forward market; concept, characteristics and definition; types of forward contracts - equity forward, currency forward, interest rate forward, forward rate agreement; valuation of forward; generic valuation principles; valuation of individual product; hedging using forwards; credit risk and forward contracts.

UNIT II

3 Futures Market and Products: Structure and role of global future market including leading futures exchanges; concept, characteristics and definition; trading mechanism and concept of margins; futures vs. forward; types of futures contracts - stock futures, index futures, currency futures, interest rate futures, commodity futures; generic valuation principles; valuation of individual futures product; basis risk; daily and final settlement price; hedging using futures; speculation using futures.

4 Option Market and Products: Structure and role of global option market including OTC and leading; options exchanges; concept, characteristics and definition; option terminology; American style and European style option; option payoffs; trading mechanism and concept of margins; futures vs options; types of options - stock options, index options, currency options, commodity options, options on futures, interest rate options;

UNIT III

5 Option Pricing: Factors affecting option pricing, upper and lower bounds of option prices, binomial model, Black and Scholes option pricing model, option Greeks (delta, gamma, theta, vega, rho), delta hedging;

option strategies (spreads, straddles and strangles); exotic options - hedging with exotic options, pricing of exotic options.

6 Swaps: Concept, characteristics and definition, Types of swaps, Interest rate swap (IRS), Currency swap, Equity swap, Other types of swaps, valuation of swaps, Swaption, credit risk and swaps, strategies and applications of swaps.

UNIT IV

7 Credit Derivatives: Concept role and structure of credit derivatives, Types of credit derivative, credit default swap, total return swap, credit spread option, Credit link notes, collateralized debt obligations.

8 Accounting and taxation of derivative instruments.

Reference Text

Derivatives: Valuation and Risk Management by David A. Dubofsky and Thomas W. Miller (2002), Oxford University Press.

Semester III COURSE 04

Mergers, Acquisitions and Corporate Restructuring

Course Objectives

An objective of the course is to expose the student to core valuation concepts, tools and skills required for valuation of a business enterprise.

Course Outline

UNIT I

1 Strategies for Value Creation

M&A as a tool of competitive advantage. Performance of M&A: why do acquisitions fail? Strategic, financial and managerial drivers of M&A activity. Reasons for M&A and its influence on shareholder value. Types of corporate control strategies. Major forces driving domestic and international M&A activity. Major players on the M&A landscape and their incentives. Analysis of successful and failed M&As. Likely future of M&A activity.

2 Stages of an M&A Transaction.

Overview of the stages of an M&A transaction, from origination to closing. Origination of M&A ideas, clarifying strategy, valuing the target, carrying out due diligence assessment and developing an implementation plan. Process timeline for an M&A transaction. Role of synergies in M&A analysis. Performance of pro forma "merger consequences" analysis. Tactical considerations before approaching a potential target.

UNIT II

3 Mechanics of M&A

Setting up an M&A function; Aligning M&A with business strategy; Active deal generation; Other sources of deals; Typical deal stages; Deal documentation; Valuations and deal returns; Due Diligence; Post acquisition integration.

4 Valuation for Mergers and Acquisition

Valuation techniques appropriate to M&A analysis. Valuing synergies. Control and liquidity discount/premium. Pricing acquisitions. Meeting the challenges of sum of the parts valuation. Estimating the cost of capital for business units. Estimating the business unit cost of capital. Peer group analysis and benchmarking. Applying peer group analysis. Valuing the business units. Estimating a target capital structure and Valuation for mergers and acquisitions.

5 Financial Strategy

The M&A as an effective corporate finance strategy. Build or buy decisions: striking the right balance. Leveraging financial assets through an M&A. Preparing the stage for a successful acquisition. Financial and non-financial criteria for acquisitions. Pitfalls and rebalancing the risk reward ratio. Cost reducing and revenue enhancing synergies. Purchasers motivated by diversification. The approach and requirements of financial purchasers. Valuing a consideration other than cash

UNIT III

6 Legal aspects ofM&A

- *Company Law Provisions*: Statutory framework for compromises, arrangements and amalgamations. Drafting of the scheme. Approval of the scheme by members and creditors. Court's sanction of the scheme. Legal aspects of valuation of shares and share-exchange ratios. Issue and allotment of shares. Standard time-schedule for procedural formalities of completing an M&A transaction. Takeover by acquisition of shares.
- *SEBI (Substantial Acquisition of Shares & Takeover Code) Provisions*: Overview of the SEBI (Substantial Acquisition of Shares & Takeover Code). Takeover of an unlisted company by acquiring controlling interest. Takeover of a listed company. Procedural formalities.
- *Competition Law Provisions*. Overview of the Competition Act, 2002. Anticompetitive agreements. Abuse of dominance. Meaning and definition of combinations. Concept of void combinations and exceptions. Market dominance of a group in and outside India. Concept of control of affairs or management. Overview of the role, powers and functions of the Competition Commission of India.
- *FEMA Provisions Relating to Cross-Border M&A*: Overview of provisions of the Foreign Exchange Management Act, 1999 relating to issue and transfer of securities between residents and non-residents, external commercial borrowings, American depository receipts, overseas investment by Indian companies, foreign direct investments, and wholly-owned subsidiaries of Indian companies abroad.

7 Accounting for M&A

Overview of Accounting Standard 14 and international accounting standards relating to M&A. Equity method of accounting for investments. Accounting for minority interest. Treatment of minority interest for enterprise valuation. Accounting for ESOPs, restructuring charges, discontinuance of operations. Recognizing asset impairments.

UNIT IV

8 Tax Aspects OF M&A

Tax aspects of choice of entity. Definition of amalgamation under Income Tax Act, 1962. Amortization of certain preliminary expenses. Tax treatment of expenditure of amalgamation, purchase of patents, copyrights, scientific research. Cost of assets acquired through M&A. Capital gains on assets transferred in M&A. Carry forward and set off of accumulated losses and unabsorbed depreciation. Deferred income taxes and reporting of income tax. Tax issue in structuring debt financing. Estimating the tax bases of target company's assets. Tax effects of ESOPs.

9 Developing the Acquisition Integration Framework

Prioritizing integration issues and ensuring buy-in by both organizations. Integrating organizations and major projects. The integration framework and its elements, and how its use will benefit you. Facilitating individual and small task group working relationships. Identifying the connections between each element and acquisition strategic intent. Achieving common focus by reaching agreement on the details of each element.

Reference Text

Mergers, Acquisitions, and Other Restructuring Activities by Donald M. DePamphilis (2010) Academic Press

Risk in Financial Services

Course Objective

This course will help to understand the processes typically used to identify, reduce and manage specific aspects of risk.

Course Outline

UNIT I

- Principles of Risk Management
- International Risk Regulation

UNIT II

- Operational Risk
- Credit Risk
- Market Risk

UNIT III

- Investment Risk
- Liquidity Risk
- Model Risk

UNIT IV

- Risk Oversight and Corporate Governance
- Enterprise Risk Management (ERM)

The course content is based on Chartered Institute for Securities & Investment's Risk in Financial Services certificate program. The detailed syllabus can also be viewed on www. cisi.org.

Reference Text:

Certificate in Risk in Financial Services, Risk in Financial Services, learning Manual, Edition 7, May 2018

Semester III COURSE 06

Practical 5: Technical Analysis

Application of the following topics for solving real world problems in the area of technical analysis:

1 Constructing and Interpreting Charts: Tools - the construction of different types of charts - line chart, bar chart, point and figure chart, candlestick charts etc.; What to Look for on the Charts.

2 Trends: Basics of pattern recognition; determination of price trends; support and resistance levels; real time presentations at end of session; moving averages; gaps; volume; comparative relative strength.

3 Phases of Price Activity and Pattern Recognition: Phases of price activity - pattern recognition on bar charts, pattern recognition on point and figure charts, pattern recognition on candlestick charting; turning points; continuation patterns; climax; candlesticks; volume; point and figure; behavioral; pairs trading / derivatives.

4 Technical Analysis Theories: Dow theory, Elliott wave theory, Fibonacci sequence, Gann analysis, Cycle analysis.

5 Technical Indicators: RSI indicator; Stochastics; Rate of change (RoC) indicator; MACD; Bollinger bands; Moving averages.

6 Sentimental Indicators: Volatility index (VIX), Put/call ratio, Bull/bear indicators, Dow's psychology of bull and bear markets, Insider activity

7 Applying technical analysis to bonds, currencies, futures and options.

Assessment:

Final submission of practical report followed by viva: 60 marks| Internal assessment: 40 marks

Practical 6: Portfolio Analysis

Application of the following topics for solving real world problems in the area of portfolio analysis:

1 Efficient Market Hypothesis (EMH)

2 Modern Portfolio Theory

3 Investment policy and portfolio creation

4 Performance Attribution Analysis

5 Measurement and Presentation of Portfolio Returns

6 Stock Market Indices

Assessment:

Final submission of practical report followed by viva: 60 marks| Internal assessment: 40 marks

Semester III COURSE 08 & 09

Seminar Based Paper

Plan: In each semester, students will be having two seminar papers on topics related to financial dynamics and other finance courses in same semester.

Action: The topics under each theme will be covered by faculty by use of mix teaching techniques for seminar-based paper like Interactive lectures on relevant topics, Active Learning, Experiential learning, Group Work and Case Method. There will be hands on training and workshops on required topics under each seminar paper to make it more practical and fruitful.

Assessment: **Continuous evaluation based on presentation**
Submission of research paper
(Total: 100 Marks)

Guidelines for preparation of research paper:

- The topic of the research paper has to be selected by the student and approved by the guide.
- The selected topic should fulfil the objectives of the course theme.
- Length of research paper: Approximately 10 pages.
- Resources to refer: Books (including eBooks), Journals especially peer reviewed and ABDC Journals (including e-Journals), data bases, web sites, reports.

Structure of the Seminar Paper:

The structure should be organized and well-researched. Technical writing skills should be crucial in organizing your ideas. The following is the seminar paper rubric, abstract, or layout that you should follow in presenting your argument or topic:

COVER PAGE: Align the text containing your name, course number, your faculty mentor's name and the date of the deadline.

ABSTRACT: Usually less than a page long, the abstract describes your paper. It lets the readers know where the paper is headed, the issue at hand and why the subject was interesting or important enough that you decided to write about it.

INTRODUCTION: The introduction should begin with a statement on the topic to be discussed. Give current business events that are linked or explain the significance of the problem at hand. Write about how you plan to resolve the issue.

Body: The body of your text should contain the synthesis of your research. Provide information **ABOUT** the topic so that the reader can further understand what is being discussed. Don't forget certain positions pertaining to the issue and the analysis of the research you have done.

RESULTS: Explain why your research has led you to believe certain things about your subject. How has your view changed from when you began the project? Has it stayed the same, and why? Tie everything you've been explaining into what you started saying in your introduction.

DISCUSSION: End with a summary and a conclusion about the topic in question. Finish by stating an opening question or by prompting the reader to continue his or her own research on the subject through a discussion.

Summer Project (4 credits)

Summer project based on their work during internship in companies need to submit.

Semester IV (40 Credits)

Code Course	Title	Code Course	Title
COURSE 01	Structured Finance	3 per week	4
COURSE 02	International Finance	3 per week	4
COURSE 03	Infrastructure and Project Financing	3 per week	4
COURSE 04	Behavioural Finance	3 per week	4
COURSE 05	Business Analytics	3 per week	4
COURSE 06	Alternative Investments	3 per week	4
COURSE 07	Seminar Paper 07	3 per week	4
COURSE 08	Seminar Paper 08	3 per week	4
COURSE 09	Dissertation	NA	8

Semester IV COURSE 01

Structured Finance

Course Objectives

The objective of this course is to develop good understanding of securitization structure, economics of structured finance, various structured instruments and valuation techniques.

Course Outline

UNIT I

1 Introduction to structured finance.

Financing with Asset-Backed Securities

2 ABS: Ratings and Cost-Benefit Analysis

Collateralized Debt Obligations: Structure and Pricing; Collateralized Loan Obligations

UNIT II

3 Credit swaps

Credit Derivatives; Synthetic ABS and related instruments.

4 MTNs and equity-linked structured notes

UNIT III

5 Design and pricing of convertible, hybrids and mezzanine debt

6 Structuring leveraged finance

UNIT IV

7 Economics of Financial Innovation

Competition and the Product Cycle in Financial Innovations; Sources of Innovations; Transactions and Monitoring Costs; Regulation, Taxes, Constraints; Market Segmentation;

8 Understanding New Instruments

The Building Block Approach; Hedging and Managing New Instruments.

Required Text

Elements of Structured Finance by Ann Rutledge, Sylvain Raines (2009), Oxford University Press.

Reference Text

Structured Finance: Techniques, Products and Market by Stefano Gatti (2005), Springer.

Semester IV COURSE 02

International Finance

Course Objectives

The course aims to provide students with: (a) a basic knowledge of how international financial markets work; (b) an understanding of exchange rates and why currency values fluctuate, and methods used to manage risk in the global markets.

Course Outline

UNIT I

1 Introduction and Motivation for International Finance

Key Issues in International Business Finance; Role of an International CFO.

2 Institutional Background of International Finance

International Payment Mechanism; International ("Euro") Money and Bond Markets; Balance of Payments; Exchange-Rate Regimes.

3 Currency Markets

Spot Markets for Foreign Currency; Exchange Rates; Major Markets for Foreign Exchange; Law of One Price for Spot Exchange Quotes; Translating FC Figures: Nominal Rates, PPP Rates, and Deviations from PPP;

UNIT II

4 Forward Exchange Rates for Currency

Introduction to Forward Contracts; Relation between Exchange and Money Markets; Law of One Price and Covered Interest Parity; Market Value of an Outstanding Forward Contract; Forward Forward and the Forward Rate Agreement; Using Forwards for International Financial Management.

5 The Market for Currency Futures

Handling Default Risk in Forward Markets; How Futures Contracts Differ from Forward Markets; Effect of Marking to Market on Futures Prices; Hedging with Futures Contracts; Pros and Cons of Futures Contracts Relative to Forward Contracts.

6 Markets for Currency Swaps

Fixed-for-Fixed Currency Swaps; Interest-Rate Swaps; Cross-Currency Swaps.

UNIT III

7 Currency Options

Concepts and Uses of Currency Options; Institutional Aspects of Options Markets; Options on Futures; Using Options for Arbitrage, Hedging; Speculation; Hedging and Valuation .

8 Exchange Risk, Exposure, and Risk Management

What Makes Forex Markets Tick? Behavior of Spot Exchange Rates; PPP Theory and the Behavior of the Real Exchange Rate; Exchange Rates and Economic Policy Fundamentals; Measuring Exposure to Exchange Rates; Concepts of Risk and Exposure: Measuring and Hedging of Operating Exposure; Accounting Exposure;

9 Managing Credit Risk in International Trade

Payment Modes without Bank Participation; Documentary Payment Modes with Bank Participation; Standard Ways of Coping with Default Risk;

UNIT IV

10 Long-Term International Funding and Direct Investment

International Fixed-Income Markets; "Euro" Deposits and Loans; International Bond and Commercial-Paper Markets; Borrowing Alternatives.

11 Cost of International Capital and International Taxation of Foreign Investments

Reference Text

International Finance: Theory and Policy By Steve Suranovic (McGraw-Hill) 2011.

Semester IV COURSE 03

Infrastructure and Project Finance

Course Objectives

This objective of the course is to provide an understanding and appreciation of a financing technique that is widely used to finance infrastructure projects today.

Course Outline

UNIT I

An Overview of Infrastructure: Demand for Infrastructure; Sustainability and Infrastructure; Definition and Characteristics of Infrastructure; Types of infrastructure companies; Value chain elements; Sources of revenue and financing; Competition and regulation.

UNIT II

Infrastructure Investments: Infrastructure as an Asset Class; Investors in infrastructure; Risk-return profiles of unlisted infrastructure; Benchmarking infrastructure investments; Portfolio diversification through infrastructure.

UNIT III

Organisational Model: Privatisation Models; Partnership Models; Business Models; Contractual Models; Financing Models.

Risk Management: General Risks; Project/Asset-specific Risks; Sector-specific Risks

UNIT IV

Project Finance: Project Finance Basics; Project Finance and PPP; Basic Structure of Project Finance; Structuring Project Financings - Advisory, Project assessment, Risk analysis and allocation, Financing, Implementation and monitoring.

Text Book

Infrastructure as an Asset Class: Investment Strategy, Sustainability, Project Finance and PPP (2e) by Barbara Weber, MirjamStaub-Bisang, Hans Wilhelm Alfen. John Wiley & Sons (2016).

Semester IV COURSE 04

Behavioural Finance

Course Objective

Psychology plays a pivotal role in the pricing of assets. On average, during rainy days the stock market underperforms in comparison with sunny days. How human psychology affects these variables will be covered in this course, which will run though the most up to date literature on these issues.

Course Outline

UNIT I

1. Investment Decision Cycle: Judgment under Uncertainty
2. Utility/ Preference Functions: Expected Utility Theory [EUT]
3. Brief History of Rational Thought: Pascal-Fermat to Friedman-Savage

UNIT II

4. Paradoxes (Allais and Others)
5. Prospect Theory
6. Information Screening Biases

UNIT III

7. Information Processing: Bayesian Decision Making, Heuristics and cognitive biases
8. Forecasting Biases
9. Emotion and Neuroscience

UNIT IV

10. Group Behavior: Conformism, herding, fatal attractions
11. Investing Styles and Behavioral Finance

Reference Text:

- Handbook of Behavioral Finance – Brian R. Bruce
- Behavioral finance - Wiley Finance - Joachim Goldberg, Rüdiger von Nitzsch

Semester IV COURSE 05

Business Analytics

Course Objectives

The objective of the course is to provide an understanding of the fundamental concepts of the emerging field of business analytics and provides vital tools in understanding how data analysis works in today's organizations. Students will learn to apply basic business analytics principles, communicate with analytics professionals and effectively use and interpret analytic models to make better business decisions.

Course Outline

UNIT I : Foundations of Business Analytics

UNIT II: Descriptive Analytics

Visualizing and Exploring Data

UNIT III: Predictive Analytics

a. Predictive Modeling and Analysis;
b. Forecasting Techniques;
c. Simulation and Risk Analysis;
d. Introduction to Data Mining

UNIT IV: Prescriptive Analytics

a. Linear Optimization;
b. Applications of Linear Optimization;
c. Integer Optimization;
d. Nonlinear and Non-Smooth Optimization;
e. Optimization Models with Uncertainty
f. Making Decisions: Decision Analysis

Text Book

Business Analytics (2e) by R. Evans James. Pearson Education (2017).

Semester IV COURSE 06

Alternative Investments

Course Objectives

The objective of this course is to explore the world of alternative investments, such as hedge funds, private equity, venture capital funds, real estate, and commodities either directly or through funds of funds.

Course Outline

UNIT I

1. Introduction to alternative investments: History, evolution, types, regulations, comparison of alternative investments with traditional investments; Categories of alternative investments; Aspects of risk and return

UNIT II

2. Investing in Commodities: Gaining Exposure to Commodities; Commodity Prices Compared to Financial Asset Prices; Economic Rationale; Commodity Futures Indexes.
3. Investing in Real Estate: The Benefits of Real Estate Investing; Real Estate Performance; Real Estate Risk Profile; Real Estate as Part of a Diversified Portfolio; Core, Value-Added, and Opportunistic Real Estate.

UNIT III

4. Investing in Real Estate Investment Trusts; Advantages and Disadvantages of REITs; Different Types of REITs; Economics of REITs.
5. Introduction to Hedge Funds: Hedge Funds vs. Mutual Funds; Growth of the Hedge Fund Industry; Categories of Hedge Funds; Hedge Fund Strategies; Considerations in Investing in Hedge Funds; Hedge Fund Performance; Hedge Fund Investment Strategy.

UNIT IV

6. Investing in Mezzanine Debt: Overview of Mezzanine Debt; Examples of Mezzanine Financing; Mezzanine Funds; Venture Capital and the Distinction Between Mezzanine; Financing and Different Forms of Private Equity; Advantages of Mezzanine Debt to the Investor.
7. Investing in Distressed Debt: Vulture Investors and Hedge Fund Managers; Distressed Debt and Bankruptcy; Distressed Debt Investment Strategies; Risks of Distressed Debt Investing.

Reference Text:

Alternative Investments: A Primer for Investment Professionals by Donald R. Chambers, Keith H. Black, Nelson J. Lacey. CFA Institute Research Foundation (2018).

Seminar Based Paper

Plan: In each semester, students will be having two seminar paper on topics related to financial dynamics and other finance courses in same semester.

Action: The topics under each theme will be covered by faculty by use of mix teaching techniques for seminar based paper like Interactive lectures on relevant topics , Active Learning, Experiential learning, Group Work and Case Method. There will be hands on training and workshops on required topics under each seminar paper to make it more practical and fruitful.

Assessment: **Continuous evaluation based on presentation**
Submission of research paper
(Total: 100 Marks)

Guidelines for preparation of research paper:

- The topic of the research paper has to be selected by the student and approved by the guide.
- The selected topic should fulfil the objectives of the course theme.
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Structure of the Seminar Paper:

The structure should be organized and well-researched. Technical writing skills should be crucial in organizing your ideas. The following is the seminar paper rubric, abstract, or layout that you should follow in presenting your argument or topic:

COVER PAGE: Align the text containing your name, course number, your faculty mentor's name and the date of the deadline.

ABSTRACT: Usually less than a page long, the abstract describes your paper. It lets the readers know where the paper is headed, the issue at hand and why the subject was interesting or important enough that you decided to write about it.

INTRODUCTION: The introduction should begin with a statement on the topic to be discussed. Give current business events that are linked or explain the significance of the problem at hand. Write about how you plan to resolve the issue.

Body: The body of your text should contain the synthesis of your research. Provide information ABOUT the topic so that the reader can further understand what is being discussed. Don't forget certain positions pertaining to the issue and the analysis of the research you have done.

RESULTS: Explain why your research has led you to believe certain things about your subject. How has your view changed from when you began the project? Has it stayed the same, and why? Tie everything you've been explaining into what you started saying in your introduction.

DISCUSSION: End with a summary and a conclusion about the topic in question. Finish by stating an opening question or by prompting the reader to continue his or her own research on the subject through a discussion.

Semester IV COURSE 09

Dissertation (8 credits)

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