FE404: FINANCIAL MATHEMATICS

No. of credits: 03

- **COURSE OBJECTIVE:**

This paper will tend to be highly technical. The emphasis will be on understanding the mathematical techniques and applying them to various, frequently unfamiliar situations. It is important to have a feel for what the numerical answer should be by having a deep understanding of the material and by doing reasonableness checks.

This course will help in the following ways:

- To develop the necessary understanding of the techniques required in finance field.
- Highlight the key areas, which crop up regularly in many different contexts and taking decisions regarding the same using mathematical models.

- **COURSE OUTLINE:**

Module1: Describe how to use a generalized cash flow model to describe financial transactions. Explain in the form of a cash flow model the operation of zero coupon bonds, a fixed interest security, an index linked security, cash on deposit, an interest only loan, a repayment loan and an annuity. (2 sessions)

Module 2: To show how the compound interest model can be used to represent the effect of investing a sum of money over a period. Define and understand the formulas in terms of v, i, n, d, and ∂ (3 sessions)

Module 3: Derive the relationships between the rates of interest and discount over one effective period arithmetically and by general reasoning. Understand the difference between nominal, effective and real rates of interest and the use of the same in financial decision-making. (4 sessions)

Module 4: Annuities-level, increasing and decreasing annuities and making financial calculations in terms of (5 sessions)

Module 5: Understanding an equation of value in case of certain payments and also in the case of uncertain annuities. (2 sessions)

Module 6: Loan schedules: Calculation of flat and annual effective rates-calculation of schedule of repayments under a loan and identify the interest and capital components of annuity payments, fixed and floating rates of interest. (2 sessions)

Module 7: Calculation of real yield from equity, index linked bonds and other types of investments using money weighted rate of return and time weighted rate of return-Understanding the term structure of interest rates. (3 sessions)

- **EVALUATION**:

Midterm	25
Assignments	25
End-term	50
Total	100

NOTE: As there are no books available on the subject, the area being relatively new, handouts would be made available to the students for the topics covered in the class. Work sheets would be made available in certain specific areas to get hands-on experience on the topics discussed.

FE403: INTERNATIONAL FINANCIAL MANAGEMENT

No. of credits: 03

- **COURSE OBJECTIVE:**

This is an introductory course in international financial management. It will discuss various aspects of the financial management of multinational corporations (MNCs), including the foreign exchange market, exchange rate behavior and international parity conditions, foreign exchange risk management, and global debt and equity financing. The international environment within which such management is conducted will also be discussed. The course will largely involve lectures, case studies problem solving and class discussions in order to elucidate the important to understand and apply the concepts of international corporate finance.

- **COURSE STRUCTURE:**

The course is structured into four modules

1. Environment of International Financial Management
2. The Foreign Exchange and Derivatives markets
3. Financing the Multinational Corporation
4. International Investment and Portfolio Analysis and Project Appraisal

➢ COURSE GRADING:

The course evaluation will be based on active class participation, case studies, presentations and project reports, and mid-term examination and end-term examination.

Component	Weight
Class Participation	10%
Case Studies and Project Reports	15%
Mid-Term Examination	25%
End Term Examination	50%
Total	100%

➢ CASE STUDIES, PROJECT REPORTS, AND PRESENTATIONS:

The purpose of the case studies and project reports are to enable students apply the learning from the lectures, text books and articles. Groups of seven students would work on a chosen project. Specific instructions and materials for case studies, projects, and presentations would be provided to the students as a part of course pack at an appropriate time.

➢ RECOMMENDED TEXT BOOKS AND READING MATERIALS:

1. PG Apte, International Financial Management, Tata-Mcgraw Hill Publication
2. Alan C. Shapiro, Multinational Financial Management, Wiley Publication

FE401: FINANCIAL MARKETS AND SYSTEMS

No. of credits: 03

➢ COURSE OBJECTIVES:

1) To familiarize the students with Financial System, its importance.
2) To make the students understand the dynamics of financial markets.
3) To bring awareness of equity markets and Indices.
4) To introduce the students with regulatory environment and derivatives as risk management tools.

5) To apply the conceptual discussions in the corporate world through projects on a continuous basis.

- **COURSE OUTLINE:**

Topic

Module I – Financial Systems

- Financial Intermediation
- Financial System - Need, Importance, Functions, Structure and Composition
- Indian Financial System and other Financial Systems

Module II – Financial Markets

- Credit and Money Market
- Debt Market – Corporate and Gilt Markets
- Forex Market – Indian and Global

Module III – Equity Instruments and Markets

- Primary Markets – Issues, Participants and Intermediaries
- Secondary markets – Stock Exchanges and Indices
- OTC and other Markets

Module IV – Derivatives and Risk Management

- Traditional Risk Management Tools

- Equity, Forex and Commodity Derivatives
- Credit Derivatives and Securitization

Module V – Contemporary Issues

- Technology and Trends in Financial Markets and Systems
- Global Economic Recession
- Non Performing Assets and Basel II

Module VI – Regulatory Framework

- Reserve Bank of India (RBI)
- Securities Exchange Board of India (SEBI)
- Forwards Exchange Commission (FEC)
- Other Regulatory Aspects

- **PREREQUISITES FOR OPTING THIS SUBJECT**

The students should get B+ in the following subjects

1) Macro Economics

2) Banking and Financial Institutions

3) Financial Management

For meeting the above requirements, respective faculty should give the grades on or before the commencement of classes i.e. 01-04-09 which would be four days before the deadline for submission of marks and grades.

- **PREREQUISITES FOR STUDENTS IN THE CLASS**

Following is the classification of the activities or events related to the subjects. Failure to follow the process would make the subjects challenging.

- **Preclass**: Activities as assigned and Readings from study material and the chapters of reference reading books mentioned in the course outline should be done, failing to do so would disqualify the student to attend the session at the discretion of the faculty.
- **In the class:** In addition to regular and prompt attendance, interaction through questions and comments is essential. Importantly interactions at the end of the session which is relevant to the topic would be highly appreciated.
- **Post class**: Complete the assignments or activities before the next session, which would be the opportunity to apply the class room concepts in the real world. Failing to do so would make the student disqualified to attend the next session

- **PEDEGOGY:**

- Interactive Lectures and discussions
- Simulation
- Group Projects
- Case analysis

➢ SESSION SCHEDULE:

1	Financial Systems	3
2	Financial Markets	3
3	Equity Instruments and Markets	3
4	Derivatives and Risk Management	4
5	Contemporary Issues	3
6	Regulatory Frame work	4
	Total	**20**

➢ PROJECTS:

The class will be divided into groups with each group having students (it could be less or more for few groups). Each group has to do one project and present before the end-term examination. The titles and schedule of the project and presentation will be given once the sessions start.

➢ EVALUATION COMPONENTS:

Evaluation Criteria	**%**
Live Projects Evaluation	30
Mid Term Evaluation	20
End Term Examination	50
Total	**100**

➢ READING REFERENCE :

- **Mishkin and Eakins**, Financial Markets + Institutions, 5th Edition, Pearson
- **Madura**, Financial Institutions and Markets, 7th Edition, Thomson
- **Meir Kohn**, Financial Institutions and Markets, 2nd Edition, Oxford
- **Bharati V Pathak**, The Indian Financial System – Markets, Institutions and Services, 2nd Edition, Pearson Education
- **L M Bhole**, Financial Institutions and Markets – Structure, Growth and Innovations, 4th Edition, McGraw Hill.
- **Clifford Gomez**, Financial Markets, Institutions and Services, PHI.
- **E Gordon Natarajan**, Financial Markets and Services, Himalaya Publications
- **H R Machi Raju**, Indian Financial System, 3rd Edition, Vikas
- **S Gurusamy**, Financial Markets and Institutions, Thomson.

➢ MAGAZINES & JOURNALS:

- Bank Quest – Quarterly
- Capital Market – Fortnight
- Dalal Street – Fortnight
- Finance India – Quarterly
- Journal of Emerging Market Finance - Tri Annual
- Money and Finance - Bi – Annual
- The ICFAI Journal of Behavioral Finance – Quarterly
- The ICFAI Journal of Financial Economics – Quarterly
- The ICFAI Journal of Derivatives Markets – Quarterly

FE402: FINANCIAL STATEMENT ANALYSIS AND SECURITY VALUATION

No. of credits: 03

- **COURSE OBJECTIVES:**

  - To develop a framework for using financial statement information in valuation contexts**.**
  - To write an equity research report, credit evaluation report or internal management report based on analysis of financial statements.
  - To analyze business strategies to understand the value that they add.
  - To integrate accounting principles, finance and valuation.

- **COURSE CONTENTS:**

Part I OVERVIEW OF FINANCIAL STATEMENTS

- **Introduction to Investing and Valuation**

Investment Styles and Fundamental Analysis
The Role of Financial Reporting in Capital Markets
Stock Market Bubbles
The Professional Analyst and the Investor
Business Analysis
Valuation Technology

- **Introduction to the Financial Statements**

The Financial Statements : Income Statement, Balance Sheet, Statement of Cash Flows etc.
Measurement in the Financial Statements
Comparison using Financial Statements

- **How Financial Statements are used in Valuation**

Multiple Analysis
Asset –Based Valuation
Fundamental Analysis
The Architecture of Fundamental Analysis
Dividend Discount Model

- **Cash Accounting, Accrual Accounting and Discounted Cash Flow Valuation**

The Discounted Cash Flow Model
The Statement of Cash Flows
Cash Flow, Earnings and Accrual Accounting

- **Accrual Accounting and Valuation : Pricing Book Values**

The Concept Behind the Price-to-Book Ratio
Prototype Valuations
A model for Anchoring Value on Book Value

- **Accrual Accounting and Valuation: Pricing Earnings**

The Concept behind the Price-to-Earnings Ratio
Prototype Valuation
A Model for Anchoring Value On Earnings

PART II THE ANALYSIS OF FINANCIAL STATEMENTS

- **Business Activities and Financial Statements**

Business Activities and Reformulating Statements
Accruals

- **Analysing the Statement of Shareholders' Equity**

Reformulating the statement of Owners' Equity
Clean Surplus and Dirty Surplus

- **Analysing the Balance Sheet and the Income Statement**

Reformulation of the Balance Sheet
Reformulation of the Income Statement
Comparative Analysis

- **Analysing the Cash Flow Statement**

Free Cash Flow
Reformulating Cash Flow Statements

- **Analysing Profitability**

Effect of Leverage
Drivers of Profitabilty

- **Analysing Growth and Sustainable Earnings**

What is Growth?
Analysing Changes in Profitability and Sustainable Earnings
Analysing Growth in Investment

PART III FORECASTING AND VALUATION ANALYSIS

- **Valuation of Operations and Analysis of Price-to-Book Ratios**

Forecasting and Valuation with Balance Sheets
Modifying Residual Earnings
The Cost of Capital in Valuation

- **Simple Forecasting and Simple Valuation**

Simple Forecasts and Simple Valuation
Simple Forecasts of Growth and Return on Net Operating Assets
The Applicability of Simple Valuations
Simple Valuation as an Analysis Tool

- **Full-Information Forecasting and Valuation**

Knowing the Business
Financial Statement Analysis: Focusing the Lens on the Business
Full Information Forecasting and Pro Forma Analysis
Value Generated in Share Transactions

PART IV ACCOUNTING ANALYSIS AND VALUATION

- **Creating Accounting Value and Economical Value**

Value Creation and the Creation of Residual Earnings
Accounting Methods, PB Ratios, PE Ratios, and Valuation
Hidden Reserves

- **Analysing the Quality of Accounting**

Accounting Quality
Earnings Quality
Detecting Accounting Manipulation and Transaction Manipulation
Disclosure Quality

PART V ANALYSING RISK

- **Analysing Equity Risk and the Cost of Capital**

Understanding Risk
Beats
Price Risk

- **Analysing Credit Risk**

Ratio Analysis for Credit Evaluations
Forecasting and Credit Analysis
Liquidity Planning and Financial Strategy

- **EVALUATION COMPONENTS:**

The Components of evaluation and their respective weights are as follows:

Components	**Weightage**
Participation	10%
Mid-Term Examination	20%
Projects	30%
End-Term Examination	40%

- **READING MATERIAL**

PRESCRIBED READING:

Stephen Penman. 2007 Financial Statement Analysis and Security Valuation. Third edition,
McGraw-Hill (SP for short).