**BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI**

**WORK INTEGRATED LEARNING PROGRAMMES**

**Digital**

Part A: Content Design

|  |  |
| --- | --- |
| **Course Title** | Global Financial Markets and Products |
| **Course No(s)** | PDFI ZG560/MBA ZG560/PDFT ZG560 |
| **Credit Units** | 4 |
| **Credit Model** |  |
| **Content Authors** | SARVESHWAR INANI |

**Course Objectives**

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| **No** |  |
| **CO1** | Gain basic understanding of the underlying concepts and building blocks related to global financial markets. Develop solid understanding of the structure and working of financial markets across the globe including equity, debt, and derivatives |
| **CO2** | Gain basic understanding of the underlying concepts and building blocks related to products and instruments that are traded in financial markets across the globe. Develop overall understanding of the structure, working, valuation, and application of various financial products including equities, debt, and derivatives. |
| **CO3** | Understand basic concepts relating to bonds, zero coupon bonds, coupon bonds, their valuation, YTM, duration, convexity, term structure of interest rates, etc. |
| **CO4** | Understand basic concepts relating to equities, equity markets, equity valuation. |
| **CO5** | Understand basic concepts relating to forwards, futures, options, swaps, other derivatives, pricing and valuation of derivatives, derivative strategies, hedging with derivatives, etc. |

**Text Book(s)**

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| T1 | Financial Markets and Institutions, 13th Edition (2023), Jeff Madura, Cengage MindTap |
| T2 | Financial Markets and Institutions, 8th Edition (2017), Fredric S. Mishkin, Stanley G. Eakins, Tulsi Jayakumar, & R. K. Pattnaik, Pearson |

**Reference Book(s) & other resources**

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| --- | --- |
| R1 | Fundamentals of Financial Instruments: An Introduction to Stocks, Bonds, Foreign Exchange, and Derivatives, 2nd Edition (2022), by Sunil Parameswaran, published by Wiley |
| R2 | Foundations of Financial Markets and Institutions, New International Edition, Fabozzi, F. J., Modigliani, F.P, & Jones, F. J. (2013), Pearson. |
| R3 | Investments, Eight Edition, by Bodie, Kane, Marcus, and Mohanty, published by McGraw Hill Education |
| R4 | Options, Futures, and other Derivatives, Ninth Edition, by Hull, and Basu, published by Pearson Education India |
| R5 | In addition (for some sessions) we will be referring to selected articles/ cases studies from top journals/ publishers relevant to the topics at hand; links and/ or references to the same will be provided later by the instructor |

**Content Structure**

1. Introduction to Financial Markets and Products
   1. Introduction
      1. Market Economy
      2. Overview of Financial Market participants
      3. Financial Innovation and its role
      4. Various types of financial institutions - banks, insurance, investment banking, etc.
      5. Overview of Financial products
   2. Time Value of Money (TVM)
      1. Basic principles of Time Value of Money, simple interest, compound interest
      2. Calculation of FV, PV of a single sum of money as well as for an annuity
      3. Concept of perpetuity.
      4. Relevant applications of TVM.
   3. Market structure and organization
      1. Primary markets vs. secondary markets
      2. Exchanges vs. OTC
      3. Brokers and Dealers
      4. Investment bankers
      5. Direct and indirect markets
      6. Mutual funds
      7. Money and Capital markets
      8. Eurocurrency market
      9. International considerations
   4. Risk and return concepts
      1. Return distributions
      2. Link between risk and return
      3. Key theories and risk measures
      4. Overview of the various risks faced by market participants
2. Debt Markets and Bond Valuation
   1. Debt Markets
      1. Money markets, including repo, commercial paper, etc.
      2. Treasury market and government securities including treasury bills, notes, bonds, stripped securities, etc.
      3. Market for Municipal securities
      4. Corporate bond market
      5. International bond market
      6. Introduction to Securitization
      7. Mortgage backed securities including residential mortgages and commercial mortgages
      8. Asset backed securities
   2. Bond Valuation
      1. Theories and term structure of interest rates
      2. Valuation of bonds - zero coupon, coupon bonds, fixed vs. floating
      3. Price to YTM relationship
      4. Bond with embedded options
      5. Price Volatility
      6. Duration and Convexity
      7. Challenges in valuing Mortgage backed securities - Prepayment risk, etc.
   3. Other Considerations
      1. Market for interest rate risk transfer
      2. Market for credit risk transfer, including credit derivatives and collateralized debt obligations
3. Equity Markets and Valuation
   1. Equity Markets
      1. Structure of the common stock market
      2. Stock exchanges and alternative trading systems
      3. Stock market regulation
      4. Dividends, stock splits, reverse splits
      5. Preferred stock vs. common stock
      6. Global depository receipts
      7. Stock market indices
      8. Pricing efficiency of the stock market
      9. Types of orders
      10. Trading mechanics
      11. Transaction costs
      12. Block trading, program trading, high frequency trading
   2. Equity Valuation
      1. Dividend discount models
      2. Free cash flow models
      3. Comparables approach
4. Derivative Markets and Valuation basics
   1. Derivative Markets
      1. Introduction to Derivatives
      2. No arbitrage principle
      3. Benefits/ Applications
      4. Types of derivatives
   2. Forwards/ Futures
      1. Introduction to forwards
      2. Equity and bond Forward contracts
      3. Forward rate agreement (FRA)
      4. Currency forward contract
      5. Key features of futures contract
      6. Margin requirements
      7. Limits in the futures market
      8. Various ways of closing a futures transaction
      9. Various types of futures contracts including Treasury Bill, Treasury Bond, Eurodollar, stock index, currency, and commodity futures
      10. Cost of carry
      11. Hedging and Calculation of hedge ratios
      12. Basis risk
      13. Leverage and Speculation
      14. Pricing/ Valuation basics
      15. Price convergence
   3. Options
      1. Introduction
      2. Types of options
      3. Basic ways of trading in options
      4. Risk return characteristics of options - Payoff diagrams
      5. Option value at expiration - Intrinsic value, Time Value
      6. Option strategies
      7. Put call parity
      8. Option Greeks
      9. Introduction to option pricing models - Binomial and Black Scholes Merton models
   4. Swaps
      1. Introduction to Swaps
      2. Interest rate swaps
      3. Currency swaps
      4. Equity swaps
      5. Introduction to Swap valuation
   5. Other Derivative products
      1. Exotic Options
5. Foreign Exchange Market
   1. Foreign Exchange Market
      1. Introduction
      2. Foreign Exchange/ Currency risk
      3. Direct vs. indirect quotes
      4. Spot Futures Parity
      5. Currency forward contracts
6. Introduction to Alternative Markets and Products
   1. Alternative Markets and Products
      1. Introduction
      2. Types of Alternative Investment products

**Learning Outcomes:**

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| No | Learning Outcomes |
| LO1 | Able to understand how various financial markets and exchanges work so as critically assess and determine which market is appropriate for a particular product. |
| LO2 | Compare and distinguish between the different types of financial products offered in the various financial markets and be able to articulate the purpose and uses of those products |
| LO3 | Apply Time Value of Money concepts for valuation of various financial products. |
| LO4 | Able to critically assess and articulate the differences across financial markets in different countries. |
| LO5 | Understand the advantages, disadvantages, and limitations of various financial products (across different countries) |
| LO6 | Be able to evaluate a given situation in a financial institution or firm and identify appropriate financial products to meet that particular requirement |
| LO7 | Develop and demonstrate solutions to "real" business/ financial problems by employing excel/ financial modeling in a optimal/ effective manner. |
| LO8 | Analyze/ Evaluate real life business/ financial situations and identify/ apply the appropriate framework/ concepts to solve it in a optimal/ effective manner. |

**Experiential Learning Components:**

1. This course will feature experiential learning components in the form of projects and assignments (such as financial modeling, simulation, etc.) that are designed to enable the participants to learn by doing. This will also form part of the Evaluation Components for the course.
2. Please note that experiential learning components are integrated into the following modules:

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| --- | --- | --- |
| Module | Topic | Experiential Learning Component |
| 1.2 | Time Value of Money | Financial Modeling (MS Excel) |
| 2.2 | Bond Valuation | Financial Modeling (MS Excel) |
| 3.1 | Equity Markets | Simulation |
| 3.2 | Equity Valuation | Financial Modeling (MS Excel) |
| 4.2 | Forwards/ Futures | Financial Modeling (MS Excel) |
| 4.3 | Options | Financial Modeling (MS Excel) |
| 4.4 | Swaps | Financial Modeling (MS Excel) |

1. We will be building financial models and doing simulation using Microsoft Excel, hence students will need a laptop/ PC preloaded with Microsoft Excel 2010 (or later) for facilitating experiential learning.
2. For doing financial calculations it is recommended that students purchase/ obtain a financial calculator. We recommend the Texas Instruments BA II plus calculator because it is very intuitive/ easy to operate and also because it economical to purchase. This calculator comes in two versions, basic and professional. The basic version is sufficient for our course work and indeed even for professional exams such as CFA/ FRM. If you do not wish to purchase a financial calculator then you may fall back on any basic/ standard calculator. If you do buy the financial calculator make sure you become familiar with its operation and practice throughout the course and not just before the exam.

**Part B: Learning Plan**

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| **Academic Term** | First Semester 2024-2025 |
| **Course Title** | Global Financial Markets and Products |
| **Course No** | PDFI ZG560/MBA ZG560/PDFT ZG560 |
| **Lead Instructor** | SARVESHWAR INANI |

Contact Hour 1

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| --- | --- | --- | --- |
| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 1.1 | Review Course Handout/ List your expectations from this course | Chapter 1 of text (T1) |
| During CH | 1.1 | Introduction | Chapter 1 of text (T1) |
| Post CH | 1.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 1 of text (T1) |

Contact Hour 2

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 1.2 | Review Course Handout/ List your expectations from this course | Notes/ Slides |
| During CH | 1.2 | Time Value of Money | Notes/ Slides |
| Post CH | 1.2 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Notes/ Slides |

Contact Hour 3

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 1.3 | Review previous week's topics. | Chapter 2 and 7 of text (T1) |
| During CH | 1.3 | Market structure and organization | Chapter 2 and 7 of text (T1) |
| Post CH | 1.3 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 2 and 7 of text (T1) |

Contact Hour 4

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 1.4 | Review previous week's topics. | Chapter 8 and 9 of text (T1) |
| During CH | 1.4 | Risk and return concepts | Chapter 8 and 9 of text (T1) |
| Post CH | 1.4 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 8 and 9 of text (T1) |

Contact Hour 5

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 2.1 | Review previous week's topics. | Chapter 20 - 29 of text (T1) |
| During CH | 2.1 | Debt Markets | Chapter 20 - 29 of text (T1) |
| Post CH | 2.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 20 - 29 of text (T1) |

Contact Hour 6

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 2.1 | Review previous week's topics. | Chapter 20 - 29 of text (T1) |
| During CH | 2.1 | Debt Markets | Chapter 20 - 29 of text (T1) |
| Post CH | 2.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 20 - 29 of text (T1) |

Contact Hour 7

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 2.1 | Review previous week's topics. | Chapter 20 - 29 of text (T1) |
| During CH | 2.1 | Debt Markets | Chapter 20 - 29 of text (T1) |
| Post CH | 2.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 20 - 29 of text (T1) |

Contact Hour 8

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 2.2 | Review previous week's topics. | Chapter 17, 18 and 19 of text (T1) |
| During CH | 2.2 | Bond Valuation | Chapter 17, 18 and 19 of text (T1) |
| Post CH | 2.2 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 17, 18 and 19 of text (T1) |

Contact Hour 9

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 2.2 | Review previous week's topics. | Chapter 17, 18 and 19 of text (T1) |
| During CH | 2.2 | Bond Valuation | Chapter 17, 18 and 19 of text (T1) |
| Post CH | 2.2 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 17, 18 and 19 of text (T1) |

Contact Hour 10

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 2.3 | Review previous week's topics. | Chapter 30, 31 and 32 of text (T1) |
| During CH | 2.3 | Other Considerations | Chapter 30, 31 and 32 of text (T1) |
| Post CH | 2.3 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 30, 31 and 32 of text (T1) |

Contact Hour 11

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 3.1 | Review previous week's topics. | Chapter 13 and 14 of text (T1) |
| During CH | 3.1 | Equity Markets | Chapter 13 and 14 of text (T1) |
| Post CH | 3.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 13 and 14 of text (T1) |

Contact Hour 12

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 3.1 | Review previous week's topics. | Chapter 13 and 14 of text (T1) |
| During CH | 3.1 | Equity Markets | Chapter 13 and 14 of text (T1) |
| Post CH | 3.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 13 and 14 of text (T1) |
| Pre CH | 3.2 | Review previous week's topics. | Notes/ Slides |
| During CH | 3.2 | Equity Valuation | Notes/ Slides |
| Post CH | 3.2 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Notes/ Slides |

Contact Hour 13

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 3.2 | Review previous week's topics. | Notes/ Slides |
| During CH | 3.2 | Equity Valuation | Notes/ Slides |
| Post CH | 3.2 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Notes/ Slides |

Contact Hour 14

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 4.1 | Review previous week's topics. | Chapter 1 of text (T1) |
| During CH | 4.1 | Derivative Markets | Chapter 1 of text (T1) |
| Post CH | 4.1 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 1 of text (T1) |

Contact Hour 15

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| Type | Content Ref. | | Topic Title | | Study/HW Resource Reference | |
| Pre CH | 4.2 | | Review previous week's topics. | | Chapter 10 of text (T1) | |
| During CH | 4.2 | | Forwards/ Futures | | Chapter 10 of text (T1) | |
| Post CH | 4.2 | | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | | Chapter 10 of text (T1) | |
| During CH | | 4.2 | | Forwards/ Futures | | Chapter 10 of text (T1) | |
| Post CH | | 4.2 | | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | | Chapter 10 of text (T1) | |

Contact Hour 16

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 4.3 | Review previous week's topics. | Chapter 11 and 15 of text (T1) |
| During CH | 4.3 | Options | Chapter 11 and 15 of text (T1) |
| Post CH | 4.3 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 11 and 15 of text (T1) |

Contact Hour 17

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 4.3 | Review previous week's topics. | Chapter 11 and 15 of text (T1) |
| During CH | 4.3 | Options | Chapter 11 and 15 of text (T1) |
| Post CH | 4.3 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 11 and 15 of text (T1) |

Contact Hour 18

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 4.4 | Review previous week's topics. | Chapter 12 and 31 of text (T1) |
| During CH | 4.4 | Swaps | Chapter 12 and 31 of text (T1) |
| Post CH | 4.4 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 12 and 31 of text (T1) |

Contact Hour 19

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 4.4 | Review previous week's topics. | Chapter 12 and 31 of text (T1) |
| During CH | 4.4 | Swaps | Chapter 12 and 31 of text (T1) |
| Post CH | 4.4 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 12 and 31 of text (T1) |

Contact Hour 20

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 4.5 | Review previous week's topics. | Notes/ Slides |
| During CH | 4.5 | Other Derivative products | Notes/ Slides |
| Post CH | 4.5 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Notes/ Slides |

Contact Hour 21

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 5 | Review previous week's topics. | Chapter 33 of text (T1) |
| During CH | 5 | Foreign Exchange Market | Chapter 33 of text (T1) |
| Post CH | 5 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Chapter 33 of text (T1) |

Contact Hour 22

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| Type | Content Ref. | Topic Title | Study/HW Resource Reference |
| Pre CH | 6 | Review previous week's topics. | Notes/ Slides |
| During CH | 6 | Introduction to Alternative Markets and Products | Notes/ Slides |
| Post CH | 6 | Review reference chapters from textbook; do the assigned homework/ experiential learning activities | Notes/ Slides |

**Evaluation Scheme**:

Legend: EC = Evaluation Component; AN = After Noon Session; FN = Fore Noon Session

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| --- | --- | --- | --- | --- | --- |
| No | Name | Type | Duration | Weight | Day, Date, Session, Time |
| EC-1 | Quiz-I (MCQ) | Online | - | 10% | Week 5 |
|  | Quiz-II (MCQ) | Online | - | 10% | Week 11 |
|  | Assignment (Experiential Learning)  (Valuation of Equity shares using multiple methods using real-life data from Screener/Moneycontrol website) | Online | - | 10% | Week 11-14 |
| EC-2 | Mid-Semester Test | Closed Book | 2 hours | 30% | Friday, 20/09/2024 (AN) |
| EC-3 | Comprehensive Exam | Open Book | 2 ½ hours | 40% | Friday, 29/11/2024 (AN) |

**Notes:**

Syllabus for Mid-Semester Test (Closed Book): Topics in Session Nos. 1 to 16 (contact hours)

Syllabus for Comprehensive Exam (Open Book): All topics (Session Nos. 1 to 32) (contact hours)

**Important links and information:**

Elearn portal: https://elearn.bits-pilani.ac.in

Students are expected to visit the Elearn portal on a regular basis and stay up to date with the latest announcements and deadlines.

Contact sessions: Students should attend the online lectures as per the schedule provided on the Elearn portal.

Evaluation Guidelines:

1. EC-1 consists of either two Assignments or three Quizzes. Students will attempt them through the course pages on the Elearn portal. Announcements will be made on the portal, in a timely manner.
2. For Closed Book tests: No books or reference material of any kind will be permitted.
3. For Open Book exams: Use of books and any printed / written reference material (filed or bound) is permitted. However, loose sheets of paper will not be allowed. Use of calculators is permitted in all exams. Laptops/Mobiles of any kind are not allowed. Exchange of any material is not allowed.
4. If a student is unable to appear for the Regular Test/Exam due to genuine exigencies, the student should follow the procedure to apply for the Make-Up Test/Exam which will be made available on the Elearn portal. The Make-Up Test/Exam will be conducted only at selected exam centres on the dates to be announced later.

It shall be the responsibility of the individual student to be regular in maintaining the self study schedule as given in the course handout, attend the online lectures, and take all the prescribed evaluation components such as Assignment/Quiz, Mid-Semester Test and Comprehensive Exam according to the evaluation scheme provided in the handout.