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Lecture Plan

**Program:** MBA-BA

**Name of the Course:** Financial Technology and Blockchain  L-P-T-C

**Credit:** 03 3-0-0-3

**Sem:** III **Academic Year:** 2024-25

**Faculty Member:** Manish Dadhich, PhD **Code:** MGM4338

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Introduction /Course Description:

This course offers a comprehensive introduction to Financial Technology (FinTech) and Blockchain, focusing on the transformative impact of these technologies on the financial services industry. Students will explore key topics such as digital payments, alternative lending, robo-advisors, InsurTech, and RegTech. The course also delves into the fundamentals of blockchain technology, including distributed ledgers, consensus mechanisms, smart contracts, and the principles of cryptography. Hands-on experience with blockchain development, smart contract deployment, and integration with existing systems is provided, alongside real-world case studies that showcase successful implementations and outcomes.

Additionally, the course addresses the regulatory and ethical considerations crucial to navigating the FinTech and blockchain landscape. Students will gain insights into the global regulatory environment, key compliance requirements, and legal challenges associated with these technologies. Ethical implications, such as data privacy, security, and the digital divide, will be discussed, preparing students to handle future trends and potential dilemmas in the evolving FinTech space. By the end of the course, participants will be well-equipped with the knowledge and skills needed to understand, develop, and implement FinTech and blockchain solutions in a variety of contexts.

**Course Objective:**

* To introduce students to the concepts and applications of financial technology (FinTech) in the

finance industry.

* To familiarize students with emerging trends, opportunities and challenges for Fintech Industry.
* To enable students to understand the impact of FinTech and blockchain on financial institutions

and their business models.

* To provide students with the skills and knowledge needed to develop and implement FinTech

solutions in financial organizations.

* To acquaint students with central banks and government agencies in regulating FinTech and

blockchain.

**Course Outcomes (COs) & Bloom's Taxonomy:**

|  |  |
| --- | --- |
| **Course Outcomes** | **Bloom's Taxonomy** |
| **CO1:** Explain the basic concept of FinTech, WealthTech and InsurTech. | * Remembering (K1) * Knowledge (K2) |
| **CO2:** Illustrate emerging trends, opportunities and challenges for Fintech Industry. | * Remembering (K1) * Knowledge (K2) |
| **CO3:** Understand the concept of blockchain. distributed ledgers, consensus algorithms, and limitations. | * Remembering (K1) * Knowledge (K2) |
| **CO4:** Analyze the application of blockchain technology, cryptocurrency, Nodes, and Networks, and Trust Framework. | * Apply (K3) * Analyze (K4) |
| **CO5:** Apply and analyze the role of central banks and government agencies in regulating FinTech and blockchain. | * Apply (K3) * Analyze (K4) |

**\***Level of Learning- Use the number from 1 to 5 for indicating the level. Level 1- Remember & Understand, Level 2- Apply, Level 3- Analyse, Level 4- Evaluate, Level 5- Create. Mention the highest level that will be attained in the particular Course Outcome.

**Course Outcome (CO) - Program Outcome (PO)/ Program Specific Outcome (PSO) Mapping**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sem | Course | CO-PO/PSO Mapping | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 |
|  | Financial Management | CO1 |  |  | 1 | 1 | 1 |  |  |  |  |  |  |
|  | Management |  |  |  |
| CO2 | 1 |  | 1 |  | 2 |  |  | 2 |  |  |  |
| I |  |  |  |  |
| CO3 | 1 |  | 2 | 1 |  | 1 |  |  | 2 |  |  |
|  |  |  |  |  |
| CO4 |  | 2 |  | 1 | 1 |  |  | 1 |  | 2 |  |
|  | (MGM2501) |  |  |  |
| CO5 |  | 3 |  | 3 | 4 |  |  |  | 3 |  |  |

Note: 1 for “Low”, 2 for “Medium” and 3 for “High”

**Pedagogy**

The pedagogy for this Financial Technology and Blockchain course integrates lectures, interactive sessions, and hands-on workshops to ensure a comprehensive understanding of both theoretical and practical aspects. Students engage with real-world case studies and projects, fostering critical thinking and practical skills in blockchain development and FinTech solutions. Guest lectures from industry experts provide insights into current practices and trends, while collaborative group projects simulate professional scenarios. Emphasis on regulatory and ethical discussions ensures a well-rounded approach, and a variety of assessments with regular feedback support continuous improvement and mastery of the subject matter.

**Employability Skills Measuring Tools:**

* FinTech and Blockchain skills.
* Managerial competitive skill (assignment on contemporary issues).
* Business insight (case studies).

Suggested Readings:

**Textbook/ Reference Books:**

* Susanne Chishti, Janos Barberis, The Fintech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, ‎ Wiley; 1st edition (April 2016).
* Ronit Ghose, Future Money: Fintech, AI and Web3, Kogan Page; 1st edition (March 2024)
* Jaspal Singh, Financial Technology (FinTech) and Digital Banking in India, New Century Publications; First Edition (1 November 2022)
* Michael P. McDonald, Blockchain Basics: A Non-Technical Introduction in 25 Steps, O'Reilly Media, 2020
* Tomasz Tunguz and Frank Bien, Winning with Data: Transform Your Culture, Empower Your People, and Shape the Future, Wiley, 2016.
* Daniel Drescher, Blockchain Basics: A Non-Technical, APress; 1st ed. edition (March 2020)

**Important Websites:**

https://www.digimat.in/nptel/courses/video/106104220/L01.html

https://fintech.global/

https://www.imf.org/en/Topics/fintech

www.finmin.nic.in

www.mospi.nic.in

https://dipp.gov.in

https://www.eudyogaadhaar.org

https://www.business-standard.com

https://epaper.financialexpress.com

https://economictimes.indiatimes.com

**Scheme of Evaluation**

|  |  |  |
| --- | --- | --- |
| **Assessment** | | **Weightage (in %)** |
| **Continuous Internal Assessment** | | **40** |
| Assessment Task | Frequency \* Marks = Total Marks (100) | Weightage for individual Component |
| Mid-Term Examination – I and II | 2\*20 = 40 | 16 |
| Quiz | 3\*10 = 30 | 12 |
| Assignments (Class Assignment /Home Assignments)/Case Study/ Case Discussions/ Project Work. | 1\*10 = 10 | 4 |
| Assignments (Class Assignment /Home Assignments) | 1\*10 = 10 | 4 |
| Attendance | 10 | 4 |
| **External Assessment** | | **60** |
| End Term Examination | 1\*60 | 60 |

**Detailed Lecture Plan:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Session No** | **Topics** | **Reading/Reference** | **Learning Outcome & Course Outcome (CO)** |
| **UNIT-I: Introduction to Financial Technology** | | | |
| 1 | Business – meaning, definition, nature & scope of FinTech. | Textbook, Chapter 3, pp. 25-27. (Future of Finance: Impact of FinTech and AI, henri arslanian  Fabrice fischer, Palgrave Macmillan, Springer)  https://www.researchgate.net/publication/334462456  Further: https://manishdadhich.gnomio.com | Remember and understand the meaning, definition, nature & scope of FinTech.  (CO1, K1, K2) |
| 2 | Fintech Transformation, Fintech Evolution. | Textbook, Chapter 3, pp. 28-32.  Further: https://manishdadhich.gnomio.com | Comprehend the forces that evolve Fintech Transformation, Fintech Evolution.  (CO1 & CO2; K1 & K2) |
| 3 | An overview of Fintech in India. | Textbook, Chapter 3, pp. 33-36.  Further: https://manishdadhich.gnomio.com | Understand overview of Fintech in India.  (CO1, K2) |
| 4 | Growth of FinTech: Payment’s innovation, BNPL and cross-border payments | Fintechs: A new paradigm of growth. https://ycpsolidiance.com/article/exploring-how-bnpl-and-p2p-are-shaping-global-fintech  Further: https://manishdadhich.gnomio.com | Comprehend the Growth of FinTech, Payment’s innovation, BNPL and cross-border payments.  (CO1, K2) |
| 5 | Concept of Digital banking and neo banking growth. | Textbook, Chapter 3, pp. 37-40.  Further: https://manishdadhich.gnomio.com | Know the concept of Digital banking and neo banking growth.  (CO1, K2) |
| 6 | Introduction to Digital lending innovations. | Textbook, Chapter 3, pp. 40-44.  Further: https://manishdadhich.gnomio.com | Comprehend the Digital lending innovations in the present context.  (CO1, K2) |
| 7 | WealthTech and investment management innovations. | https://andsimple.co/insights/wealthtech-innovations-family-offices/  Further: https://manishdadhich.gnomio.com | Comprehend WealthTech and investment management innovations.  (CO1, K2) |
| 8 | Types of Fintechs: Fintech and Payments, Fintech and Lending | https://plaid.com/resources/fintech/what-is-fintech/ Further: https://manishdadhich.gnomio.com | Understand various types of fintechs: fintech and payments, fintech and lending.  (CO1, K2) |
| 9 | Fintech and Wealth Management, Fintech and Digital Banking | https://plaid.com/resources/fintech/what-is-fintech/ Further: https://manishdadhich.gnomio.com | Comprehend Fintech and Wealth Management, Fintech and Digital Banking.  (CO1, K2) |
| 10 | InsurTech innovations and its applications. | Textbook, Chapter 3, pp. 40-44.  Further: https://manishdadhich.gnomio.com | Analyze InsurTech innovations and its applications.  (CO2, K2) |
| 11 | Quiz 1: Introduction on FinTech | Further: https://manishdadhich.gnomio.com | Analysis of Fintech and its comprehensive view.  (CO2, K2) |
| UNIT-II: Emerging FinTech themes and opportunities | | | |
| 12 | Overview and analysis of Inclusive finance in India. | Textbook, Chapter 7, pp. 81-84.  Further: https://manishdadhich.gnomio.com | Evaluate the Overview and analysis of Inclusive finance in India.  (CO2, K1) |
| 13 | Introduction to Green/sustainable finance and its relevance.  (Case Study: | https://www.greenfinanceplatform.org/page/explore-green-finance  Further: https://manishdadhich.gnomio.com | Analyze Green/sustainable finance and its relevance.  (CO2, K1, K2) |
| 14 | Web 3.0 and the metaverse. | https://www.blockchain-council.org/metaverse/web-3-0-vs-metaverse/ | Understand the concept of Web 3.0 and the metaverse.  (CO2, K2) |
| 15 | Challenges faced by India’s Fintech Industry. | https://www.researchgate.net/publication/331480921\_fintech\_in\_india\_-\_opportunities\_and\_challenges  Further: https://manishdadhich.gnomio.com | Acquaint with challenges faced by india’s fintech industry.  (CO2, K2) |
| 16 | Opportunities for India’s Fintech Industry. | https://www.researchgate.net/publication/331480921\_fintech\_in\_india\_-\_opportunities\_and\_challenges  Further: https://manishdadhich.gnomio.com | Analyze the opportunities for india’s fintech industry.  (CO2, K2) |
| 17 | Case study: Changing Banks’ DNA: The impact of Fintech on small business lending, HBR | https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FKE1186-PDF-ENG%2Fcontent&metadata=e30%3D | Understand assignment questions and case study discussion on fintech and its opportunities in the new age market.  (CO2, K2) |
| 18 | Quiz 2: Emerging FinTech themes and opportunities | - | Emerging FinTech themes and opportunities.  (CO2, K2) |
| **UNIT-III: Blockchain and Cryptography** | | | |
| 19 | Overview of Blockchain and Cryptography. | Textbook, Chapter 9, pp. 89-92.  Further: https://manishdadhich.gnomio.com | Understand the basic features of blockchain and cryptography.  (CO3, K1, K2) |
| 20 | Analysis of Public and Private Key Cryptography. | Textbook, Chapter 9, pp. 93-96. | Understand and analysis of public and private key cryptography.  (CO3, K1, K2, K3) |
| 21 | Role of Digital Signature and Hashing. | Textbook, Chapter 9, pp. 96-99.  Further: https://manishdadhich.gnomio.com | Understand the role of digital signature and hashing.  (CO3, K1, K2, K3) |
| 22 | Blockchain As an Enabling Technology, concept of Distributed ledgers, consensus algorithms. | Textbook, Chapter 10, pp. 113-120.  Further: https://manishdadhich.gnomio.com | Acquainted with various types of distributed ledgers, consensus algorithms.  (CO3, K1, K2, K3) |
| 23 | Theory of smart contracts | Textbook, Chapter 6, pp-47-60, Applications  of Blockchain  Technology in  Business  Challenges and  Opportunities, Mohsen­ &  Angappa­, Springer. | Acquaint with theory of smart contracts.  (CO3, K1, K2, K3) |
| 24 | Application to Blockchain: Blockchain applications in the BFSI. | Textbook, Chapter 6, pp-61-65.  Further: https://manishdadhich.gnomio.com | Understand the role of Application to Blockchain applications in the BFSI.  (CO3, K1, K2, K3) |
| 25 | Application to Blockchain: design rationale, and limitations.  Lecture by Industry Experts | Textbook, Chapter 6, pp-70-75.  Further: https://manishdadhich.gnomio.com | Recognize the application of Blockchain, design, rationale, and limitations.  (CO3, K1, K2, K3) |
| 26 | Quiz 3: Blockchain and Cryptography | - | Understand and analyze blockchain and cryptography.  (CO3, K2, K3) |
| **UNIT-IV: Working with Blockchain** | | | |
| 27 | History of Blockchain and relevance. | https://www.geeksforgeeks.org/blockchain-technology-introduction/  Further: https://manishdadhich.gnomio.com | Understand the history of blockchain and relevance.  (CO4, K1, K2, K3) |
| 28 | Introduction to cryptocurrency. | https://www.geeksforgeeks.org/blockchain-technology-introduction/ | Identify the application of cryptocurrency.  (CO4, K1, K2, K3) |
| 29 | Prologue to Blocks in Blockchain. | Further: https://manishdadhich.gnomio.com | Understand the Prologue to Blocks in Blockchain  (CO4, K1, K2, K3) |
| 30 | Nodes, and Networks. | https://www.geeksforgeeks.org/blockchain-technology-introduction/ | Know the genesis nodes, and networks.  (CO4, K2, K3) |
| 31 | Public and private Blockchain. | https://www.geeksforgeeks.org/blockchain-technology-introduction/  Further: https://manishdadhich.gnomio.com | Understand and analyze Public and private Blockchain.  (CO4, K2, K3) |
| 32 | Proof of stack, and proof of work. | https://www.geeksforgeeks.org/blockchain-technology-introduction/  Further: https://manishdadhich.gnomio.com | Understand and analyze Proof of stack, and proof of work.  (CO4, K2, K3) |
| 33 | Class assignment: Blockchain and management |  | Understand and analyze Blockchain and management.  (CO4, K2, K3) |
| **UNIT-V: Fintech regulation and Ethics** | | | |
| 34 | Overview of FinTech Regulation and Ethics. | https://www.idnow.io/fintech/what-is-fintech-regulation/  Further: https://manishdadhich.gnomio.com | Understand the past overview of FinTech Regulation and Ethics., and importance in a chaotic scenario.  (CO5, K2, K3) |
| 35 | Regulatory frameworks for FinTech and blockchain. | https://www.idnow.io/fintech/what-is-fintech-regulation/  Further: https://manishdadhich.gnomio.com | Establish a relationship between Regulatory frameworks and FinTech and blockchain.  (CO5, K2, K3) |
| 36 | Role of central banks in regulating FinTech and blockchain. | https://www.imf.org/en/Blogs/Articles/2023/11/20/central-bank-digital-currency-development-enters-the-next-phase  Further: https://manishdadhich.gnomio.com | Understand and analyze the role of central banks in regulating fintech and blockchain.  (CO5, K2, K3) |
| 37 | Case study: Blockchain enabled green ecosystem, HBR | https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW20638-PDF-ENG%2Fcontent&metadata=e30%3D | Appraise the green ecosystem using blockchain.  (CO5, K3, K4) |
| 38 | Role of government agencies in regulating FinTech and blockchain. | https://assets.kpmg.com/content/dam/kpmg/it/pdf/2018/03/governments-role-in-evolution-of-fintech.pdf  Further: https://manishdadhich.gnomio.com | Understand and analyze the role of government agencies in regulating FinTech and blockchain.  (CO5, K3, K4) |
| 39 | Ethical considerations in the use of FinTech | https://assets.kpmg.com/content/dam/kpmg/it/pdf/2018/03/governments-role-in-evolution-of-fintech.pdf  Further: https://manishdadhich.gnomio.com | Analyze the key issues of ethical considerations in the use of FinTech: privacy, security, and social impact.  (CO5, K2, K4) |
| 40 | Analysis of privacy, security, and social impact of FinTech | https://www.linkedin.com/pulse/social-ethical-consequences-blockchain-technology-libin-m/  Further: https://manishdadhich.gnomio.com | Analyze the key issues of ethical considerations in the use of blockchain: privacy, security, and social impact. |
| 41 | Assignment questions, case studies on Fintech and blockchain. | Further: https://manishdadhich.gnomio.com | Analyze and evaluate Fintech and blockchain assignments. |
| 42 | Business talk and expert lecture on Blockchain. | - | - |
| 43 | Seminar and group presentation | - | Seminar and group presentation |
| 44 | Seminar and group presentation | - | Seminar and group presentation |
| 45 | Recapitulation | - | Recapitulation |

Students’ Interaction Time: Friday (04:30 PM – 05:30 PM)

Thursday (04:30 PM – 05:30 PM)