

# MBA Curriculum

Master of Business Administration (MBA) in  
Management Information Systems (MIS)



**Department of Management Information Systems (MIS)**  
Faculty of Business Studies  
Begum Rokeya University, Rangpur  
Rangpur-5404, Bangladesh.

## PART A

1. **Title of the Academic Program** : Master of Business Administration (MBA) in Management Information Systems (MIS)
2. **Name of the University** : Begum Rokeya University, Rangpur.
3. **Name of the Degree** : Master of Business Administration (MBA)
4. **Name of the Faculty Offering the Program** : Faculty of Business Studies
5. **Name of the Department Offering the Program** : Department of Management Information Systems (MIS)
6. **Vision of the Department** : Delivering outstanding business education combined with Information Systems to promote research, innovation, and the advancement of a sustainable, prosperous society.
7. **Mission of the Department** :
  - M1*: To provide age-demanding business education blended with Information Systems.
  - M2*: To make competent and skilled human resources for future business transformation.
  - M3*: To create an environment for excellence in research and innovation.
8. **Vision of the Program** : To develop innovative global business leaders who are equipped to face the challenges of the modern tech-driven business world.
9. **Mission of the Program** : This program strives to:
  - I. Equip graduates with the knowledge, skills, and values essential to address the current demands of the business world.
  - II. Develop versatile graduates capable of leading nation-building efforts in the 4th Industrial Revolution.
  - III. Design and implement innovative research and teaching programs by closely monitoring technological developments in the business sector.
10. **Objectives of the Program** : To equip individuals with the managerial skills and knowledge required to thrive in today's technology-driven business environment.

- 11. Description of the Program** : This program emphasizes the use of information systems concepts to collect, store, and retrieve data for management planning and decision-making. The curriculum creates a learning environment that encourages the development of skills needed to address complex, constantly changing real-world challenges. It is designed to help individuals enhance their effectiveness in organizations by understanding information processes as essential tools for achieving organizational objectives. Through this specialized program, students gain the skills necessary for managing corporate IT and making informed decisions.
- 12. Program Educational Objectives (PEOs)** :
- PEO1:* Developing students' advanced conceptual, analytical, and technical skills necessary for addressing complex managerial problems and current market trends.
  - PEO2:* Empowering students to apply concepts of business aligned with IS effectively and efficiently.
  - PEO3:* Enhancing students' business awareness, leadership skills, and entrepreneurial capabilities.
  - PEO4:* Enriching students in developing skills for cutting-edge research and lifelong learning.
- 13. Program Learning Outcomes (PLOs)** :
- PLO1:* Students will be able to comprehend the leadership role of Management Information Systems in gaining a competitive business advantage through data-driven decision-making.
  - PLO2:* Students will be able to examine and integrate business information and systems to support the assessment of strategic options and their implementation in a managerial context.
  - PLO3:* Students will be able to apply critical thinking and analytical judgement for business problems.
  - PLO4:* Students will be able to conduct independent research and demonstrate mastery of specific subject area.
- 14. Generic Skills Required for the Program/Graduate Profile/Graduate Attributes** :
- Fundamental ICT Skills
  - Strategic thinking
  - Creative problem-solving
  - Analytical Ability
  - Communication skills
  - The ability to work and learn collaboratively

15. Mapping PEOs with Departmental Missions

| Missions/<br>PEOs | <i>PEO1</i> | <i>PEO2</i> | <i>PEO3</i> | <i>PEO4</i> |
|-------------------|-------------|-------------|-------------|-------------|
| <i>M1</i>         | 1           | 3           |             |             |
| <i>M2</i>         | 2           |             | 3           |             |
| <i>M3</i>         |             |             |             | 3           |

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16. Mapping PLOs with the PEOs

| PEOs/PLOs   | <i>PLO1</i> | <i>PLO2</i> | <i>PLO3</i> | <i>PLO4</i> |
|-------------|-------------|-------------|-------------|-------------|
| <i>PEO1</i> | 2           |             | 3           |             |
| <i>PEO2</i> | 3           | 1           | 2           |             |
| <i>PEO3</i> | 3           | 2           |             |             |
| <i>PEO4</i> |             |             |             | 3           |

## PART B

### Structure of Curriculum

- a) Duration of the Program : 01 Year
- b) Number of Terms : 2
- c) Total number of Credit Offered : 36
- d) Minimum Credits to be Earned : 36
- e) Total Weeks in a Term : 20

|                          |          |
|--------------------------|----------|
| <b>Classes</b>           | 13 weeks |
| <b>Precatory Leave</b>   | 02 weeks |
| <b>Final Examination</b> | 03 weeks |
| <b>Term Break</b>        | 02 weeks |
| <b>Total</b>             | 20 weeks |

- f) Minimum CGPA Requirements for Completing the Program

: The university will award degrees on the recommendation of the Departmental Academic Committee. Students who obtained an “F” grade in any course taken shall not be eligible for the award of the degree. Other provisions regarding the award of the degree will be determined by the relevant provisions as laid down in the academic resolutions of the university.

- g) Maximum Academic Years of Completion

: Provisions regarding the maximum academic years to complete the degree will be determined by the relevant provisions as laid down in the academic resolutions of the university.

- h) Program Components Distribution

| <b>Types of Courses</b> | <b>No. of Courses</b> | <b>Credits</b> |
|-------------------------|-----------------------|----------------|
| Compulsory Courses      | 10                    | 30             |
| Viva-Voce               | 1                     | 03             |
| Research Paper          | 1                     | 3              |
| <b>Total</b>            | <b>12</b>             | <b>36</b>      |

i. **Term Wise Distribution of Courses with Credits**

**COMPULSORY COURSES (5 COURSES)**

| No                                      | Course Code | Term | Course Title                                    | Type   | Credit    |
|---|-------------|------|---|--------|-----------|
| 1                                       | MIS 5101    | 1    | Applied Artificial Intelligence                 | Theory | 3         |
| 2                                       | MIS 5102    | 1    | Financial Technology                            | Theory | 3         |
| 3                                       | MIS 5103    | 1    | IT Policy and Strategy                          | Theory | 3         |
|   | MIS 5104    | 1    | Cyber Security                                  | Theory | 3         |
| 5                                       | MIS 5105    | 1    | Emerging Technologies and Innovation Management | Theory | 3         |
| <b>Total in 1<sup>st</sup> semester</b> |             |      |   |        | <b>15</b> |

**COMPULSORY COURSES (7 COURSES)**

| No                                      | Course Code | Term | Course Title                       | Type      | Credit    |
|---|-------------|------|------------------------------------|-----------|-----------|
| 1                                       | MIS 5201    | 2    | Digital Marketing                  | Theory    | 3         |
| 2                                       | MIS 5202    | 2    | Legal and Ethical Aspects of IS    | Theory    | 3         |
| 3                                       | MIS 5203    | 2    | IT Audit and Governance            | Theory    | 3         |
| 4                                       | MIS 5204    | 2    | Human Resource Information Systems | Theory    | 3         |
| 5                                       | MIS 5205    | 2    | Business Analytics                 | Theory    | 3         |
| 6                                       | MIS 5206    | 2    | Viva-Voce                          | Viva-Voce | 3         |
| 7                                       | MIS 5207    | 2    | Research Paper                     |           | 3         |
| <b>Total in 2<sup>nd</sup> semester</b> |             |      |                                    |           | <b>21</b> |
| <b>Total Credit in MBA</b>              |             |      |                                    |           | <b>36</b> |

# PART C

## Course Description

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5101                                    |                                       |
| <b>Course Title:</b> | Applied Artificial Intelligence             |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 1   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

This course aims to increase understanding of AI, explain the various ways in which it is employed in business, and offer a strategic framework for how to put AI at the forefront of initiatives for digital transformation. The students will thus possess a fundamental knowledge of artificial intelligence in business and be able to integrate these technologies into real world business problems.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |   |
|-------------|---|
| <b>CLO1</b> | Demonstrate an understanding of the main concepts of Artificial Intelligence and machine learning.                              |
| <b>CLO2</b> | Demonstrate understanding of how to operationalize Artificial Intelligence and machine learning.                                |
| <b>CLO3</b> | Identify key areas to apply Artificial Intelligence and machine learning techniques within a business organization.             |
| <b>CLO4</b> | Discuss advantages and the risk of using Artificial Intelligence and machine learning techniques for strategic decision making. |

**Mapping of CLO with PLO:**

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| <b>CLO1</b>                     | 2                              |      | 3    |      |
| <b>CLO2</b>                     | 3                              | 2    |      |      |
| <b>CLO3</b>                     | 2                              | 1    | 3    |      |
| <b>CLO4</b>                     |                                |      |      | 2    |

## Course Plan

| Week  | Topic   | Teaching Learning Strategy | Assessment Strategy             | Corresponding CLOs |
|-------|---|----------------------------|---------------------------------|--------------------|
| 1-3   | <p><b>OVERVIEW OF THE COURSE:</b></p> <p>Discussion on Course Objectives, Learning Outcomes, Assessment Strategies, Required Textbooks, and Course Materials.</p> <p><b>INTRODUCTION TO ARTIFICIAL INTELLIGENCE (AI):</b></p> <p>Is AI a General-Purpose Technology?<br/>Basics of Big Data and data infrastructure</p> | Class Lectures             | Class Participation and Quizzes | CLO1               |
| 4-6   | <p><b>INTRO TO BIG DATA AND AI:</b></p> <p>Artificial intelligence for Business introduction, big data overview, Big data Analysis, Data Management infrastructure</p>  | Class Lectures             | Class Participation and Quizzes | CLO2               |
| 7-10  | <p><b>AI-DRIVEN BUSINESS AND GOVERNMENT TRANSFORMATION:</b></p> <p>AI Strategy and Governance, AI-Driven Business Transformation, developing a Portfolio of AI Projects, Lowering Barriers for AI Use</p>   | Class Lectures             | Class Participation and Quizzes | CLO3               |
| 11-13 | <p><b>AI IN THE ORGANISATIONAL STRUCTURE</b></p> <p><b>BENEFITS AND RISKS OF USING AI FOR DECISION MAKING</b></p>   | Class Lectures             | Class Participation and Quizzes | CLO4               |

### Assessment and Evaluation:

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

### Recommended Readings:

1. Rajendra Akerkar, *Artificial Intelligence for Business*. 4<sup>th</sup> edition.
2. Kartik Hosanagar, *A Human's Guide to Machine Intelligence*.

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5102                                    |                                       |
| <b>Course Title:</b> | Financial Technology                        |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 1   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

### Course Objectives:

Financial Technology (FinTech) course provides students with a comprehensive understanding of how technology is transforming the financial services industry. This course explores key FinTech innovations such as blockchain, digital payments, robo-advisors, peer-to-peer lending, and cryptocurrencies. Students will gain insights into the regulatory, ethical, and security issues surrounding FinTech, and learn how data analytics and artificial intelligence are reshaping financial decision-making. By the end of the course, students will be equipped with the knowledge and skills necessary to critically assess and leverage FinTech solutions in various financial contexts, preparing them for careers in this dynamic field.

### Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to-

|             |  |
|-------------|--|
| <b>CLO1</b> | Recognize the global FinTech ecosystem and explain how banks and financial service providers influence and react to disruption and innovation. |
| <b>CLO2</b> | Connect behavioral finance theories to developments in banking technology.   |
| <b>CLO3</b> | Understand digital currency and disruptive payment systems.  |
| <b>CLO4</b> | Understand FinTech regulations.  |
| <b>CLO5</b> | Learn the use of technology in the banking and insurance industry and capital market.  |
| <b>CLO6</b> | Learn the fundamentals of programming within the framework of finance theory and application.  |
| <b>CLO7</b> | Analyze FinTech proposals and make persuasive demonstrations.  |

### Mapping of CLO with PLO:

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| <b>CLO1</b>                     | 3                              |      |      |      |
| <b>CLO2</b>                     |                                | 2    |      |      |
| <b>CLO3</b>                     | 3                              |      |      |      |
| <b>CLO4</b>                     | 3                              |      |      |      |
| <b>CLO5</b>                     | 2                              |      |      |      |
| <b>CLO6</b>                     |                                |      | 2    |      |

|      |  |  |  |   |
|------|--|--|--|---|
| CLO7 |  |  |  | 2 |
|------|--|--|--|---|

## Course Plan

| Week    | Topics   | Teaching Learning Strategy | Assessment Strategy                 | Corresponding CLOs |
|---------|--|----------------------------|-------------------------------------|--------------------|
| 1       | <p><b>OVERVIEW OF THE COURSE:</b><br/>Discussion on Course Objectives, Learning Outcomes, Assessment Strategies, Required Textbooks, and Course Materials.</p> <p><b>INTRODUCTION:</b> Fintech Evolution, Infrastructure, Banks Start-Ups, And Emerging Markets, Collaboration Between Financial Institutions and Start-Ups, Fintech Typology, Emerging Economics, and Banking Ecosystems.</p>   | Class Lectures and Cases   | Class Participation and Quizzes     | CLO1               |
| 2,3     | <p><b>DIGITAL FINANCE AND ALTERNATIVE FINANCE:</b> Brief History of Financial Innovation, Digitization of Financial Services, Fintech &amp; Funds, Crowdfunding, Charity and Equity, P2P and Marketplace Lending, New Models and New Products, ICO</p>   | Class Lectures and Cases   | Class Participation and Quizzes     | CLO1 CLO2          |
| 4, 5, 6 | <p><b>BLOCKCHAIN:</b> Introduction to Crypto-Economics, Blockchain Dynamics, Public, and Private Blockchains, Hard and Soft Forks, Sharding, Side Chain-Verifiers- Trust, Cost and Speed-Proof of Work and Other Models, Blocks and Blockchain, The Chain, Nodes and Networks, Blockchain in Use, Trust Framework and Consensus Mechanisms, Public, Consortium, Private Blockchains, Blockchain Interoperability</p> <p><b>CRYPTOGRAPHY:</b> Application of Cryptography to Blockchain, Cryptocurrencies and Digital Crypto Wallets, Types of Cryptocurrencies, Cryptocurrencies and Applications Hash Functions, Public Key Cryptography and Signing. Putting Technology Together- Examples of Implementations with Their Trade-offs., Smart Contract</p> <p><b>BITCOIN:</b> The Big Picture of The Industry- Size, Growth, Structure, Players-Bitcoin Versus Cryptocurrencies Versus Blockchain, Distributed Ledger Technology (DLT) – Strategic Analysis of The Space- Major Players: Blockchain Platforms, Regulators, Application Providers, Etc.-Bitcoin, Hyper Ledger, Ethereum, Litecoin, Zcash.</p> <p><b>PAYMENTS:</b><br/>Individual Payments –Digital Financial, Services – Mobile Money – Regulation of Mobile Money – SFMS - RTGS - NEFT –NDS Systems – Global Payment Ecosystem, Payments Architecture and Setup, Innovation in Consumer and Retail payments, Popular Payments Technology</p> | Class Lectures and Cases   | Class Participation and Assignments | CLO3               |
| 7       | <p><b>FINTECH REGULATION AND REGTECH:</b><br/>FinTech Regulations Evolution of RegTech –</p>   | Class Lectures             | Class Participation                 | CLO4               |

|          |   |                          |                                  |      |
|----------|---|--------------------------|----------------------------------|------|
|          | RegTech Ecosystem: Financial Institutions – RegTech Ecosystem Ensuring Compliance from the Start: Suitability and Funds – RegTech Start-ups: Challenges – RegTech Ecosystem: Regulators Industry – Use Case of AI in Smart Regulation and Fraud Detection – Regulatory Sandboxes – Smart Regulation – Redesigning Better Financial Infrastructure; Smart Regulation   | and Cases                | and Quizzes                      |      |
| 8,9      | <p><b>BANKTECH:</b> Regulatory Framework for Product Pricing, Loan origination and servicing, Social media-based profiling, comparison tools and aggregators, Dynamic credit rating, Risk management &amp; underwriting, Using Credit Counsellor Robo/Bot for faster approvals &amp; funding, Utilizing data science tools and machine learning for data mining/ cross sale, Hybrid Lending Products.</p> <p><b>INSURTECH:</b> How does InsurTech work, Business model disruption, Aggregators, AI/ML in InsurTech, IoT and InsurTech, Risk Modeling, Fraud Detection, Processing claims and Underwriting, Innovations in Insurance Services, Unicorns, and business models.</p> <p><b>FINTECH FOR CAPITAL MARKETS:</b> Discount Broking, Disruption to Broking model, Architecture of Algorithmic Trading, Risk, Costs and Roles in Algorithmic Trading, Business aspects of FinTech in Capital Markets, Fund Management, and Algorithmic Trading, Setting up an Algo bot, Robo Advisory, Automating Investment rules, Robo-advisory Platforms and Architecture.</p> | Class Lectures and Cases | Class Participation and Quizzes  | CLO5 |
| 10,11,12 | <b>PROGRAMMING FOR FINTECH:</b> Python in use, MATLAB in use  | Class Lectures and Lab   | Class Participation and Exercise | CLO6 |
| 13       | <b>FINTECH CASE ANALYSIS AND PRESENTATION</b>   | Cases                    | Case Analysis and Presentation   | CLO1 |

**Assessment and Evaluation:**

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

**Recommended Readings:**

1. Agustin Rubini, *“Fintech in a Flash: Financial Technology Made Easy”*, Zaccheus, 3rd Edition, 2018
2. *Fintech and the Remaking of Financial Institutions* by John Hill
3. Susanne Chishti and Janos Barberis, *“The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries”*, John Wiley, 1st Edition, 2016
4. *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World*, Don Tapscott and Alex Tapscott, Portfolio, 2018.

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5103                                    |                                       |
| <b>Course Title:</b> | IT Policy and Strategy                      |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 1   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

IT Policy and Strategy course equips students with a comprehensive understanding of the formulation, implementation, and evaluation of information technology policies and strategies within organizations. The course emphasizes the alignment of IT initiatives with organizational goals, governance frameworks, risk management, regulatory compliance, and ethical considerations. Students will analyze case studies, explore global trends, and develop strategic planning skills to lead IT-driven transformation. By the end of the course, learners will be able to critically assess IT policies and design effective strategies that support innovation, efficiency, and sustainable growth in dynamic business environments.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |   |
|-------------|---|
| <b>CLO1</b> | <b>Understand</b> IT governance models and frameworks (e.g., COBIT, ITIL) and their role in aligning IT with business strategy.                   |
| <b>CLO2</b> | <b>Analyze</b> IT policies that ensure compliance, data protection, and effective IT management in organizations.                                 |
| <b>CLO3</b> | <b>Apply</b> strategic IT plans that align with organizational goals, considering risk management, resource allocation, and technological trends. |
| <b>CLO4</b> | <b>Evaluate</b> how IT strategies influence organizational efficiency, innovation, competitiveness, and long-term value creation.                 |

**Mapping of CLO with PLO:**

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| <b>CLO1</b>                     |                                | 3    |      |      |
| <b>CLO2</b>                     | 2                              |      |      |      |
| <b>CLO3</b>                     | 2                              | 3    |      |      |
| <b>CLO4</b>                     |                                |      |      | 2    |

## Course Plan

| Week  | Topics   | Teaching Learning Strategy      | Assessment Strategy                   | Corresponding CLOs |
|-------|--|---------------------------------|---------------------------------------|--------------------|
| 1,2,3 | <b>Introduction to IT Policy and Strategy</b><br>Definition and importance<br>Role of IT in strategic management<br>IT strategy vs. business strategy  | Class Lectures                  | Class Participation and Quizzes       | CLO1               |
| 3,4,5 | <b>IT Governance and Frameworks</b><br>Principles of IT governance Frameworks: COBIT, ITIL, TOGAF<br>Corporate governance and IT alignment   | Class Lectures                  | Class Participation and Quizzes       | CLO1               |
| 6,7,8 | <b>Strategic Planning for IT</b><br>Strategic IT planning process<br>SWOT analysis in IT strategy<br>Balanced Scorecard for IT   | Class Lectures                  | Class Participation and Assignment    | CLO2               |
| 9,10  | <b>Developing IT Policies</b><br>Policy development lifecycle<br>Types of IT policies (security, usage, compliance, etc.)<br>Legal and regulatory considerations (e.g., GDPR, HIPAA)   | Class Lectures                  | Class Participation and Quizzes       | CLO2               |
| 11    | <b>IT Investment and Portfolio Management</b><br>IT budgeting and financial management<br>ROI, TCO, and business case analysis<br>IT project portfolio management  | Class Lectures                  | Class Participation and Quizzes       | CLO3               |
| 12,13 | <b>Risk Management and Compliance</b><br>IT risk assessment and mitigation<br>Security policy and audit<br>IT compliance and standards (ISO/IEC 27001, NIST, etc.)<br>Enterprise Architecture and IT Strategy<br>Introduction to enterprise architecture<br>Aligning IT architecture with strategic goals<br>Case studies in EA implementation | Class Lectures and Case Studies | Class Participation and Presentations | CLO4               |

### Assessment and Evaluation:

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

**Recommended Readings:**

"IT Strategy: Issues and Practices" *By James D. McKeen & Heather Smith*

**Supplementary Readings:**

"IT Governance: How Top Performers Manage IT Decision Rights for Superior Results" *By Peter Weill and Jeanne W. Ross*

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5104                                    |                                       |
| <b>Course Title:</b> | Cyber Security                              |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 1   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

Cyber security affects every individual, organization, and nation. This course focuses on the evolving and pervasive technological environment with an emphasis on securing personal, organizational, and national information. Students will be introduced to the principles of cyber security, explore emerging technologies, examine threats and protective measures, and investigate the diverse high-skill, high-wage, and high-demand career opportunities in the field of cyber security.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |   |
|-------------|---|
| <b>CLO1</b> | Understand the principles of the cyber security with possible Cyber Threats and Vulnerabilities.                    |
| <b>CLO2</b> | Apply the concepts and functions of cryptography, digital forensics, the ethics and laws related to cyber security. |
| <b>CLO3</b> | Analyze different cyber risk & insurance and importance of cyber-Insurance.   |
| <b>CLO4</b> | Evaluate the basic concept of data Integrity and data security.   |

**Mapping of CLO with PLO:**

| <b>Course Learning Outcomes (CLO):</b> | <b>Program Learning Outcome (PLO)</b> |             |             |             |
|--|---------------------------------------|-------------|-------------|-------------|
|  | <b>PLO1</b>                           | <b>PLO2</b> | <b>PLO3</b> | <b>PLO4</b> |
| <b>CLO1</b>                            | 2                                     |             |             |             |
| <b>CLO2</b>                            |                                       |             | 3           |             |
| <b>CLO3</b>                            |                                       | 2           |             |             |
| <b>CLO4</b>                            | 2                                     |             |             |             |

## Course plan

| Week  | Topics  | Teaching Learning Strategy      | Assessment Strategy                   | Corresponding CLOs |
|-------|---|---------------------------------|---------------------------------------|--------------------|
| 1     | <b>Cyber Security Fundamentals:</b> concept of cyberspace and cyber security, why is cyber security important, concept of hacker, define vulnerability and risk, explain why organizations need to manage risk. identify the concepts of cyber security risk management, describe cyber security threats to an organization, analyze risks affecting critical infrastructure  | Class Lectures                  | Class Participation and Quizzes       | CLO1               |
| 2,3   | <b>Cyber Threats and Vulnerabilities:</b> differentiate between a cyber-threat and a vulnerability, describe types of cyber threats, analyze types of current cyber threats, describe the concept of malware and the techniques to guard against it, describe the characteristics of vulnerabilities, identify the prevention of and protections against cyber threats  | Class Lectures                  | Class Participation                   | CLO3               |
| 4,5   | <b>Ethics &amp; Law Relates to Cyber Security:</b> differentiate between ethics and laws, distinguish among types of ethical concerns, define cyberbullying, identify actions that constitute cyberbullying, identify possible warning signs of someone being cyberbullied, demonstrate net etiquette as it relates to cyber security, identify laws applicable to cyber security   | Class Lectures                  | Class Participation and Quizzes       | CLO4               |
| 6-8   | <b>Cryptography and Digital Forensics:</b> concept of cryptography and digital forensics, basic terminology, functions of cryptography, benefits of digital forensics on cyber security, recent digital forensic trends   | Class Lectures                  | Class Participation and Quizzes       | CLO5               |
| 9-11  | <b>Cyber Risk &amp; Cyber Insurance:</b> concept of cyber risk and cyber insurance, why is cyber insurance important, how does cyber insurance work, who needs cyber insurance, what is covered and not covered by cyber insurance, how to choose a cyber security insurance policy and how much does cyber insurance cost  | Class Lectures                  | Class Participation and Quizzes       | CLO5               |
| 12-13 | <b>Data Privacy and Data Security:</b> distinguish between data, information, and knowledge, why personal data is valuable to both an individual and to organizations, the techniques used to collect personal data through social media, web tracking, and mobile devices, explain the difference between data at rest, data in transit, and data being processed, discuss how data can be compromised, corrupted, or lost, explain how businesses and individuals can protect themselves against threats to their data. | Class Lectures And Case Studies | Class Participation and Presentations | CLO3 CLO5          |

**Assessment and Evaluation:**

| <b>Title</b>                       | <b>Marks</b> |
|------------------------------------|--------------|
| Class Attendance                   | 05%          |
| Quiz/Class Test/Tutorial/In-course | 10%          |
| Assignment                         | 10%          |
| Presentation                       | 05%          |
| Mid Semester Examination           | 30%          |
| <b>Total Continuous Assessment</b> | <b>60%</b>   |
| Final Examination                  | 40%          |
| <b>Total</b>                       | <b>100%</b>  |

**Recommended Readings:**

Fundamentals of Cyber securities by Jack Ruman; Latest Edition.  
 CEH v9: Certified Ethical Hacker Version 9, by Oriyano, published by Sybex; 9th Edition, 2016, ISBN: 978-1-119-25224-5.

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5105  |                                       |
| <b>Course Title:</b> | Emerging Technologies and Innovation management |                                       |
| <b>Course Type:</b>  | Compulsory                                      |                                       |
| <b>Term:</b>         | 1   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours  |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b>     | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

The objective of the *Emerging Technologies and Innovation Management* course is to equip students with the knowledge and skills needed to understand, analyze, and manage emerging technologies within a business context. The course explores how innovation drives competitive advantage and how organizations can strategically adopt and implement new technologies to foster growth and transformation. Students will learn to evaluate the impact of disruptive technologies, assess innovation strategies, and manage technological change. Emphasis is placed on real-world applications, case studies, and critical thinking to prepare students for leadership roles in technology-driven environments and to navigate the challenges of a dynamic digital landscape.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |  |
|-------------|--|
| <b>CLO1</b> | Recognize the problems with how "technology," "innovation," and "innovation management" are defined. |
| <b>CLO2</b> | Recognize the diversity of innovation processes, innovators, and environments.                       |
| <b>CLO3</b> | Implement strategies for controlling risk and uncertainty while starting new businesses.             |
| <b>CLO4</b> | Comprehend the type and scope of innovation and development in technology.                           |
| <b>CLO5</b> | Learn entrepreneurial financial strategies   |
| <b>CLO6</b> | Determine the best methods for managing and operating international innovation initiatives.          |

**Mapping of CLO with PLO:**

| <b>Course Learning Outcomes (CLO):</b> | <b>Program Learning Outcome (PLO)</b> |             |             |             |
|--|---------------------------------------|-------------|-------------|-------------|
|  | <b>PLO1</b>                           | <b>PLO2</b> | <b>PLO3</b> | <b>PLO4</b> |
| <b>CLO1</b>                            | 3                                     |             |             |             |
| <b>CLO2</b>                            |                                       | 2           |             |             |
| <b>CLO3</b>                            |                                       | 2           |             |             |
| <b>CLO4</b>                            |                                       |             | 3           |             |

|             |   |  |  |  |
|-------------|---|--|--|--|
| <b>CLO5</b> | 2 |  |  |  |
| <b>CLO6</b> | 2 |  |  |  |

### Course Plan

| Week     | Topics   | Teaching Learning Strategy | Assessment Strategy                | Corresponding CLOs |
|----------|--|----------------------------|------------------------------------|--------------------|
| 1,2      | <b>INTRODUCTION:</b><br>Fundamentals of Technology, Development and Commercialization, how innovations are diffused and adopted or why they failed to do so, Diversity and Innovation Management                     | Class Lectures             | Class Participation and Quizzes    | CLO1               |
| 3,4      | <b>DESIGNING BUSINESS PLANS:</b> Start-up Management- to effectively, convey the opportunity to stakeholders in different situations   | Class Lectures             | Class Participation and Quizzes    | CLO2               |
| 5,6      | <b>EXECUTION APPROACHES:</b> Scope, New Venture, Managing Risk, and Uncertainty.   | Class Lectures             | Class Participation and Assignment | CLO3, CLO4         |
| 7,8      | <b>FINANCIAL LANDSCAPE:</b> The entrepreneurial finance landscape and the traits of various financiers, understanding how hypothesis testing can be used to create lean start-ups. Strategic performance measurement | Class Lectures             | Class Participation and Quizzes    | CLO5               |
| 9,10     | <b>THE VALUE AND RISKS EVALUATION:</b><br>Models and Methods, Commercialization Strategies.  | Class Lectures and Cases   | Class Participation and Quizzes    | CLO3               |
| 11,12,13 | <b>GOING GLOBAL:</b><br>Best practices for managing and running global innovation ventures- change, entry, and exit.   | Class Lectures and Cases   | Class Participation and Exercise   | CLO6               |

### Assessment and Evaluation:

| Title                              | Marks      |
|------------------------------------|------------|
| Class Attendance                   | 05%        |
| Quiz/Class Test/Tutorial/In-course | 10%        |
| Assignment                         | 10%        |
| Presentation                       | 05%        |
| Mid Semester Examination           | 30%        |
| <b>Total Continuous Assessment</b> | <b>60%</b> |

|                   |             |
|-------------------|-------------|
| Final Examination | 40%         |
| <b>Total</b>      | <b>100%</b> |

**Recommended Readings:**

1. Dubey, S. S. *Technology and Innovation Management*. PHI Learning Pvt. Ltd.
2. White, M. A., & Bruton, G. D. *The management of technology and innovation: A strategic approach*. Cengage Learning.

## MBA 1<sup>st</sup> Year 2<sup>nd</sup> Semester Courses

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5201                                    |                                       |
| <b>Course Title:</b> | Digital Marketing                           |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 2   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

### Course Objectives:

Students will learn how to effectively use digital channels and tools to promote brands, engage customers, and drive business growth. They will gain a solid understanding of core digital marketing concepts such as search engine optimization (SEO), search engine marketing (SEM), content marketing, social media strategies, email marketing, influencer collaborations, and online advertising techniques. The course will also cover analytics and performance measurement, helping students make data-driven marketing decisions. By exploring real-world case studies and hands-on projects, students will develop practical skills in creating, executing, and evaluating digital marketing campaigns. Additionally, they will understand the ethical and legal considerations in digital marketing, and learn to adapt strategies in response to rapidly evolving digital trends and consumer behavior.

### Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to-

|             |  |
|-------------|--|
| <b>CLO1</b> | <b>Understand core digital marketing concepts</b> and the role of digital channels in modern marketing strategies.                                     |
| <b>CLO2</b> | <b>Develop and implement digital marketing campaigns</b> using tools such as SEO, SEM, content marketing, email marketing, and social media platforms. |
| <b>CLO3</b> | <b>Analyze consumer behavior in digital environments</b> to design targeted and effective digital marketing strategies.                                |
| <b>CLO4</b> | <b>Apply</b> web analytics and performance metrics to evaluate the effectiveness of digital campaigns and make data-driven decisions.                  |
| <b>CLO5</b> | <b>Design</b> content strategies that align with brand goals and engage audiences across various digital channels.                                     |

### Mapping of CLO with PLO:

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| <b>CLO1</b>                     | 2                              |      |      |      |
| <b>CLO2</b>                     |                                | 2    |      |      |
| <b>CLO3</b>                     | 2                              |      |      |      |
| <b>CLO4</b>                     |                                |      | 3    |      |
| <b>CLO5</b>                     |                                |      | 2    |      |

## Course Plan

| Week     | Topics   | Teaching Learning Strategy      | Assessment Strategy                   | Corresponding CLOs |
|----------|--|---------------------------------|---------------------------------------|--------------------|
| 1        | <b>Introducing digital marketing:</b> how have digital technologies transformed marketing? what are digital marketing and multichannel marketing? Introduction to digital marketing strategy. Introduction to digital marketing communications.  | Class Lectures                  | Class Participation and Quizzes       | CLO1               |
| 2,3      | <b>Online marketplace analysis: micro-environment:</b> The digital marketing environment, Understanding customer journeys, Consumer choice and digital influence, Online consumer behavior and implications for marketing, Competitors, Suppliers, New channel structures, Business models for e-commerce  | Class Lectures                  | Class Participation and Quizzes       | CLO3               |
| 4,5      | <b>The online macro-environment:</b> Understand The rate of environment change, Technological forces, Economic forces, Political forces, Legal forces, Social forces, Cultural forces.   | Class Lectures                  | Class Participation and Assignment    | CLO4               |
| 6,7,8    | <b>Digital marketing strategy:</b> The need for an integrated digital marketing strategy, How to structure a digital marketing strategy, Situation analysis, Setting goals and objectives for digital marketing, Strategy formulation for digital marketing, Strategy implementation.  | Class Lectures                  | Class Participation and Quizzes       | CLO5               |
| 9,10     | <b>The impact of digital media and technology on the marketing mix:</b> Product, Price, Place, Promotion, People, process and physical evidence, Case studies: Digital marketing in practice, The Smart Insights interview with Roberto Hortal, EDF Energy, who explains why the marketing mix remains relevant today, Case study: Spotify streaming develops new revenue models.                          | Class Lectures                  | Class Participation and Quizzes       | CLO5               |
| 11,12,13 | <b>Relationship marketing using digital platforms:</b> The challenge of customer engagement, Customer lifecycle management, Case studies: Digital marketing in practice, The Smart Insights interview: Guy Stephens, Social Customer Care consultant at IBM on using social, media platforms to enhance customer service, Case Study: Dell gets closer to its customers through its social media strategy. | Class Lectures and Case Studies | Class Participation and Presentations | CLO3 CLO5 CLO6     |

**Assessment and Evaluation:**

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

**Recommended Readings:**

Chaffey, D. & Ellis-Chadwick, F. (Latest Edition). Digital Marketing, Pearson Education Limited

**Supplementary Readings:**

Hall, S. (2021). B2B digital marketing strategy: how to use new frameworks and models to achieve growth. London: Kogan Page.

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5202                                    |                                       |
| <b>Course Title:</b> | Legal and Ethical Aspects of IS             |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 2   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

Students will gain a thorough understanding of the legal frameworks and ethical challenges associated with the development, implementation, and use of information systems. They will explore key issues such as data privacy, cybersecurity, intellectual property rights, digital contracts, and the ethical use of emerging technologies like AI and big data. The course will equip students with the ability to critically assess the risks and responsibilities involved in managing information in a digital environment, both from a legal compliance perspective and through ethical reasoning. By analyzing real-world case studies and current regulatory standards, students will learn how to navigate complex legal landscapes, uphold ethical standards, and contribute to responsible and secure information systems management in organizations.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |  |
|-------------|--|
| <b>CLO1</b> | <b>Understand and explain key legal concepts</b> related to information systems, including data privacy, intellectual property, cybersecurity, and digital contracts.                  |
| <b>CLO2</b> | <b>Analyze ethical issues</b> arising from the use of information systems, such as privacy concerns, data security, and the ethical implications of emerging technologies like AI, big |

|             |   |
|-------------|---|
|             | data, and cloud computing.  |
| <b>CLO3</b> | <b>Evaluate the legal and regulatory frameworks</b> that govern information systems, including GDPR, HIPAA, and other data protection laws, and understand their implications for businesses and individuals. |
| <b>CLO4</b> | <b>Apply ethical decision-making frameworks</b> to resolve dilemmas related to the use of information systems, ensuring responsible and fair use of technology.   |

#### Mapping of CLO with PLO:

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| <b>CLO1</b>                     | 2                              |      |      |      |
| <b>CLO2</b>                     |                                |      | 2    |      |
| <b>CLO3</b>                     | 1                              |      |      |      |
| <b>CLO4</b>                     |                                |      | 2    |      |

#### Course Plan

| Week | Topics   | Teaching Learning Strategy | Assessment Strategy                | Corresponding CLOs |
|------|--|----------------------------|------------------------------------|--------------------|
| 1    | <b>Introduction to Legal and Ethical Issues in Information Systems</b><br>Overview of legal and ethical frameworks in information systems<br>Importance of law and ethics in the digital world<br>Ethical decision-making models and theories (utilitarianism, deontology, virtue ethics)<br>Relationship between law, ethics, and technology  | Class Lectures             | Class Participation and Quizzes    | CLO1               |
| 2,3  | <b>Data Privacy and Protection Laws</b><br>Key data privacy regulations: GDPR, HIPAA, CCPA, and others<br>Legal rights of individuals regarding personal data<br>Data collection, storage, and sharing regulations<br>Ethical issues in data privacy (data consent, anonymization, surveillance)<br>Case studies of data breaches and their legal consequences   | Class Lectures             | Class Participation and Quizzes    | CLO2, CLO3         |
| 4,5  | <b>Intellectual Property and Information Systems</b><br>Types of intellectual property: Copyright, patents, trademarks, trade secrets<br>Protection of software, databases, and digital content<br>Fair use and copyright infringement in the digital world<br>Ethical considerations in the use of open-source software and digital content<br>Case studies on intellectual property violations in technology | Class Lectures             | Class Participation and Assignment | CLO3, CLO4         |
| 6    | <b>Cybersecurity and Legal Implications</b><br>Cybersecurity laws and regulations (e.g.,   | Class                      | Class                              | CLO5               |

|     |   |                                 |                                       |                |
|-----|---|---------------------------------|---------------------------------------|----------------|
|     | <p>Cybersecurity Act, Data Protection Laws)</p> <p>Responsibilities of businesses in protecting sensitive data and systems</p> <p>Ethical challenges in cybersecurity practices (hacking, vulnerability disclosure)</p> <p>Legal consequences of cyberattacks (hacking, data breaches, ransomware)</p> <p>International cybersecurity standards and frameworks (ISO/IEC 27001)</p>  | Lectures                        | Participation and Quizzes             |                |
| 7   | <p><b>Digital Contracts and E-Commerce</b></p> <p>Legal aspects of digital contracts (e-signatures, online agreements)</p> <p>Contract formation and enforcement in the digital world</p> <p>Consumer protection laws in e-commerce (refund policies, fraud prevention)</p> <p>Ethical issues in online marketing, pricing, and consumer rights</p> <p>Case studies on disputes in e-commerce and digital contracts</p>   | Class Lectures                  | Class Participation and Quizzes       | CLO5           |
| 8,9 | <p><b>Ethical and Legal Challenges in Emerging Technologies</b></p> <p>Ethical concerns surrounding Artificial Intelligence, Machine Learning, and Big Data</p> <p>Legal challenges related to automated decision-making and AI governance</p> <p>Intellectual property issues in AI and data-driven innovations</p> <p>Ethical considerations in surveillance technologies and facial recognition</p> <p>Case studies on the ethical implications of emerging technologies</p> | Class Lectures and Case Studies | Class Participation and Presentations | CLO3 CLO5 CLO6 |
| 10  | <p><b>Information Systems Governance and Compliance</b></p> <p>Role of governance in information systems management</p> <p>Legal requirements for information systems audits and compliance</p> <p>Corporate social responsibility (CSR) in technology firms</p> <p>Risk management in digital systems and compliance with industry standards</p> <p>Ethical implications of non-compliance with legal frameworks</p>   | Class Lectures and Case Studies | Class Participation and Quizzes       | CLO4           |
| 11  | <p><b>Cybercrime, Digital Fraud, and Liability</b></p> <p>Types of cybercrimes: Hacking, identity theft, phishing, ransomware</p> <p>Legal definitions and liability for cybercrimes</p> <p>Ethical issues in cybersecurity research and "white-hat" hacking</p> <p>The role of businesses and individuals in preventing digital fraud</p>  | Class Lectures and Case Studies | Class Participation and Quizzes       | CLO5           |

|       |  |                                 |                                 |      |
|-------|--|---------------------------------|---------------------------------|------|
|       | Case studies on cybercrime incidents and legal repercussions   |                                 |                                 |      |
| 12,13 | <b>Global and Cross-Border Legal Issues in Information Systems</b><br>Jurisdictional issues in global e-commerce and data exchange<br>Cross-border data transfer regulations (e.g., Safe Harbor, Privacy Shield)<br>International agreements and treaties on cybersecurity and data privacy<br>Ethical dilemmas in multinational data management and cloud computing<br>Case studies of global legal conflicts in digital businesses | Class Lectures and Case Studies | Class Participation and Quizzes | CLO6 |

**Assessment and Evaluation:**

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

**Recommended Readings:**

**Cyberlaw: The Law of the Internet and Information Technology"**

**Author:** Brian Craig

**Information Technology Law"**

**Author:** Andrew Murray

|                      |   |                                       |  |
|----------------------|---|---------------------------------------|--|
| <b>Course Code:</b>  | MIS 5203                                    |                                       |  |
| <b>Course Title:</b> | IT Audit and Governance                     |                                       |  |
| <b>Course Type:</b>  | Compulsory                                  |                                       |  |
| <b>Term:</b>         | 2   |                                       |  |
| <b>Credit:</b>       | 3   |                                       |  |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |  |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |  |
|                      | 60  | 40                                    |  |
|                      | 100   |                                       |  |

### Course Objectives:

Students will learn how to assess and ensure the effectiveness, security, and compliance of information technology systems within organizations. They will gain a deep understanding of the role of IT governance in aligning IT strategies with business objectives, ensuring regulatory compliance, and managing IT-related risks. Students will learn key concepts such as risk management, internal controls, audit frameworks (e.g., COBIT, ITIL), and the processes involved in conducting IT audits. The course will also cover the importance of ethical considerations in IT governance, including data privacy, cybersecurity, and stakeholder accountability. By analyzing real-world case studies, students will develop the skills to evaluate IT systems, assess governance practices, and provide recommendations for improvement, enabling them to contribute to the long-term success and sustainability of organizations' IT functions.

### Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to-

|             |   |
|-------------|---|
| <b>CLO1</b> | <b>Understand the principles of IT governance</b> and its role in aligning IT objectives with business goals and strategies.  |
| <b>CLO2</b> | <b>Evaluate and apply key IT audit frameworks</b> (e.g., COBIT, ITIL, ISO/IEC 27001) to assess the effectiveness of IT governance and control systems within organizations. |
| <b>CLO3</b> | <b>Identify and assess IT risks</b> , including security, compliance, and operational risks, and recommend strategies for managing and mitigating these risks.              |
| <b>CLO4</b> | <b>Perform IT audits</b> to assess the effectiveness of internal controls, cybersecurity measures, and regulatory compliance, using industry-standard tools and techniques. |
| <b>CLO5</b> | <b>Analyze the legal and ethical considerations</b> related to IT governance, including data privacy, security regulations, and organizational accountability.              |
| <b>CLO6</b> | <b>Design and implement internal controls and audit processes</b> to ensure compliance with relevant standards, laws, and regulations in IT systems.                        |

### Mapping of CLO with PLO:

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| <b>CLO1</b>                     | 2                              |      |      |      |
| <b>CLO2</b>                     |                                |      | 2    |      |
| <b>CLO3</b>                     | 2                              |      |      |      |
| <b>CLO4</b>                     |                                | 2    |      |      |
| <b>CLO5</b>                     |                                | 2    |      |      |
| <b>CLO6</b>                     |                                | 3    |      |      |

## Course Plan

| Week | Topics   | Teaching Learning Strategy | Assessment Strategy                | Corresponding CLOs |
|------|--|----------------------------|------------------------------------|--------------------|
| 1    | <b>Introduction to IT Audit and Governance</b> <ul style="list-style-type: none"> <li>Overview of IT governance and its importance in organizations</li> <li>Key concepts in IT auditing and governance</li> <li>The role of IT governance in aligning IT strategy with business objectives</li> <li>IT audit vs. traditional financial audit</li> <li>Ethical considerations in IT auditing</li> </ul>  | Class Lectures             | Class Participation and Quizzes    | CLO1               |
| 2,3  | <b>IT Governance Frameworks and Standards</b> <ul style="list-style-type: none"> <li>Introduction to IT governance frameworks (COBIT, ITIL, ISO/IEC 27001)</li> <li>The relationship between governance frameworks and organizational performance</li> <li>Evaluating IT governance maturity</li> <li>Best practices in IT governance implementation</li> <li>IT governance in the context of risk management and compliance</li> </ul>                        | Class Lectures             | Class Participation and Quizzes    | CLO2, CLO3         |
| 4,5  | <b>IT Risk Management and Control</b> <ul style="list-style-type: none"> <li>Types of IT risks (security risks, operational risks, compliance risks)</li> <li>Risk management frameworks (e.g., NIST, COSO)</li> <li>Risk assessment and analysis techniques</li> <li>Design and implementation of IT controls (preventive, detective, corrective controls)</li> <li>Internal controls in IT: Segregation of duties, access control, data integrity</li> </ul> | Class Lectures             | Class Participation and Assignment | CLO3, CLO4         |
| 6    | <b>Conducting IT Audits</b> <ul style="list-style-type: none"> <li>The audit process: Planning, fieldwork, and reporting</li> <li>Identifying audit objectives and scope in IT environments</li> <li>Key areas of IT audits: Network security, data privacy, compliance, disaster recovery, and business continuity</li> <li>Testing controls and evaluating evidence</li> <li>Audit tools and techniques for IT audits</li> </ul>                             | Class Lectures             | Class Participation and Quizzes    | CLO5               |
| 7    | <b>Cybersecurity and Compliance Audits</b> <ul style="list-style-type: none"> <li>The role of cybersecurity in IT audits</li> <li>Assessing an organization's cybersecurity posture</li> <li>Security audits: Identifying vulnerabilities, penetration testing, and security policy evaluation</li> <li>Compliance audits: Legal and regulatory</li> </ul>   | Class Lectures             | Class Participation and Quizzes    | CLO5               |

|       |  |                                 |                                       |                |
|-------|--|---------------------------------|---------------------------------------|----------------|
|       | requirements (e.g., GDPR, HIPAA, Sarbanes-Oxley) <ul style="list-style-type: none"> <li>• Privacy and data protection audits</li> </ul>  |                                 |                                       |                |
| 8,9   | <b>Information Systems and Data Integrity</b> <ul style="list-style-type: none"> <li>• Evaluating information systems for data accuracy and reliability</li> <li>• The importance of data integrity in IT governance</li> <li>• Controls for ensuring data accuracy, completeness, and consistency</li> <li>• Auditing databases, ERP systems, and cloud environments</li> <li>• Data governance and its relationship to IT auditing</li> </ul>  | Class Lectures and Case Studies | Class Participation and Presentations | CLO3 CLO5 CLO6 |
| 10,11 | <b>Internal Controls in IT</b> <ul style="list-style-type: none"> <li>• The role of internal controls in IT governance and audits</li> <li>• Designing IT control frameworks: Access control, change management, system development life cycle (SDLC) controls</li> <li>• Implementing controls for IT operations, including incident management and disaster recovery</li> <li>• Continuous monitoring and auditing of IT controls</li> <li>• IT general controls vs. application controls</li> </ul> | Class Lectures and Case Studies | Class Participation and Presentations | CLO3 CLO5 CLO6 |
| 12,13 | <b>IT Audit Reporting and Communication</b> <ul style="list-style-type: none"> <li>• Documenting audit findings and preparing audit reports</li> <li>• Communicating audit results to stakeholders: Executive summaries, detailed reports, and presentations</li> <li>• Recommendations for improving IT governance and risk management</li> <li>• Follow-up on audit findings and corrective actions</li> <li>• Case studies on successful audit outcomes and failed audits</li> </ul>                | Class Lectures and Case Studies | Class Participation                   | CLO5 CLO6      |

**Assessment and Evaluation:**

| Title                              | Marks      |
|------------------------------------|------------|
| Class Attendance                   | 05%        |
| Quiz/Class Test/Tutorial/In-course | 10%        |
| Assignment                         | 10%        |
| Presentation                       | 05%        |
| Mid Semester Examination           | 30%        |
| <b>Total Continuous Assessment</b> | <b>60%</b> |

|                   |             |
|-------------------|-------------|
| Final Examination | 40%         |
| <b>Total</b>      | <b>100%</b> |

**Recommended Readings:**

1. Somani, Arun K., and Ganesh Chandra Deka, eds. *Big data analytics: Tools and technology for effective planning*. CRC Press, 2017.
2. Pries, Kim H., and Robert Dunnigan. *Big Data Analytics: A practical guide for managers*. CRC Press, 2015
3. Ghavami, Peter. *Big Data Analytics Methods*. De Gruyter, 2019
4. Sharda, Ramesh, Dursun Delen, and Efraim Turban. *Analytics, data science, & artificial intelligence: Systems for decision support*. Pearson Education Limited, 2021.

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5204                                    |                                       |
| <b>Course Title:</b> | Human Resource Information System           |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 2   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

As technology has been transforming the businesses from all spheres of business processes with the passing of age, human resource management (HRM) processes are also adopting this transformation day by day. In this regard, the Human Resource Information System (HRIS) is playing a vital role in this transformation. As a result, business students need to acquaint themselves with HRIS. Thus, this course deals with how technology can be useful in collecting information regarding people and how that information can be used in business. This course will focus on the general concept and guidelines to develop the HRIS planning, development, implementation, and maintenance.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |   |
|-------------|---|
| <b>CLO1</b> | Understand the fundamental concepts of Human Resource Information System.   |
| <b>CLO2</b> | Analyze the strategic implications of Human Resource Information System in attaining organizational success                             |
| <b>CLO3</b> | Apply the managerial perspective of Human Resource Information System including planning, development, implementation, and maintenance. |
| <b>CLO4</b> | Evaluate the use of information from a Human Resource Information System in decision making.  |

**Mapping of CLO with PLO:**

| Course Learning Outcomes (CLO): | Program Learning Outcome (PLO) |      |      |      |
|---------------------------------|--------------------------------|------|------|------|
|                                 | PLO1                           | PLO2 | PLO3 | PLO4 |
| CLO1                            | 2                              |      |      |      |

|      |   |   |   |  |
|------|---|---|---|--|
| CLO2 |   | 3 |   |  |
| CLO3 |   |   | 3 |  |
| CLO4 | 2 |   |   |  |

### Course Plan

| Week | Topics   | Teaching Learning Strategy      | Assessment Strategy                   | Corresponding CLOs |
|------|--|---------------------------------|---------------------------------------|--------------------|
| 1    | <b>Overview of the course:</b> Able to Understand the fundamental concepts of HRIS and the impact of HRIS on accomplishing HR functions; Able to Know the managerial perspective of HRIS including planning, development, implementation, and maintenance; Able to Explore HRIS software to enhance skills regarding HRM professionals through lab practice.   | Class Lectures                  | Class Participation and Quizzes       | CLO1               |
| 2    | <b>Information Technology Systems:</b> - Able to Describe the historical evolution of HRM, including the changing role of the human resources (HR) professional; Able to Discuss the impact of computer technology on the evolution of HRM; Able to Explain the purpose and nature of HRIS as well as the differences between the types of HRIS; Able to Discuss the use of information from an HRIS in decision making. | Class Lectures                  | Class Participation and Quizzes       | CLO3               |
| 3    | <b>Strategic and Competitive Opportunities:</b> Able to know about strategic plan of the organization; Able to know about the competitive priority of the HR; Able to understand about the competitive opportunities as a tools of external environment.   | Class Lectures                  | Class Participation and Quizzes       | CLO3, CLO4         |
| 4    | <b>Databases and Data Warehouse:</b> Able to Discuss the use of information from an HRIS in decision making; Able to Discuss the use of information from an HRIS in decision making; Able to Discuss the use of information from an HRIS in decision making.   | Class Lectures                  | Class Participation and Quizzes       | CLO3               |
| 5    | <b>Decision Support and Artificial Intelligence:</b> Able to know about decision criteria of HRIS; Able to know about HR for obtaining decision support systems; Able to understand about Artificial Intelligence and emotional intelligence.  | Class Lectures                  | Class Participation and Quizzes       | CLO4               |
| 6    | <b>Networks and Emerging Technologies:</b> Able to know about basics of networks and emerging technologies; Able to know how to adopt with emerging and intended technologies; Able to understand Technical paradigm shift.  | Class Lectures and Case Studies | Class Participation and Presentations |                    |
| 7    | <b>Planning for IT Systems and Developing IT Systems:</b> Able to Understand the system design process and its importance to HRIS  | Class Lectures                  | Class Participation and Quizzes       | CLO3               |

|       |   |                |                                 |      |
|-------|---|----------------|---------------------------------|------|
|       | implementation; Able to be categorize HRIS data into appropriate categories related to human capital, the organization, or the interaction of human capital and the organization; Able to discover that there are multiple users/customers of the implemented HRIS and be able to identify that they each have very different data needs. |                |                                 |      |
| 8-10  | <b>HRIS Planning: Software for HRIS, HRIS:</b> Able to know about the basics of human resource information system planning; Able to know about different software for HRIS; Able to understand how to implement the HRIS in the organization.   | Class Lectures | Class Participation and Quizzes | CLO3 |
| 11-13 | <b>HRIS Applications: Applicant &amp; Employment Management, Compensation, Benefits:</b> Able to know about the HRIS application for paying compensation; Able to know about HRIS for employment management; Able to use the HRIS for managing compensation and other benefits.   | Class Lectures | Class Participation and Quizzes | CLO4 |

### Assessment and Evaluation:

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

### Recommended Readings:

- a) Human Resource Management System: Strategies, Tactics, and Techniques by V.R. Ceriello and M.C. Freeman, Latest edition, New York: Lexington Books.

### Supplementary Readings:

- a) Management Information Systems for the Information by Haag, S., Cummings, M. & Dawkins, J.P., Latest edition, McGraw-Hill Companies, U.S.A.
- b) Strategic Human Resource Management by P. Iles, Latest edition, Oxford: Blackwell Business.

|                      |   |                                       |
|----------------------|---|---------------------------------------|
| <b>Course Code:</b>  | MIS 5205                                    |                                       |
| <b>Course Title:</b> | Business Analytics                          |                                       |
| <b>Course Type:</b>  | Compulsory                                  |                                       |
| <b>Term:</b>         | 2   |                                       |
| <b>Credit:</b>       | 3   |                                       |
| <b>Contact Hour:</b> | 45 Hours                                    |                                       |
| <b>Total Marks:</b>  | <b>Continuous Internal Evaluation (CIE)</b> | <b>Semester End Examination (SEE)</b> |
|                      | 60  | 40                                    |
|                      | 100   |                                       |

**Course Objectives:**

A Business Analytics course typically covers a blend of business concepts, data analysis techniques, and programming skills to help students make informed decisions. It often includes topics like descriptive, diagnostic, predictive, and prescriptive analytics, along with data visualization, statistical modeling, and software tools.

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to-

|             |   |
|-------------|---|
| <b>CLO1</b> | Understand the fundamental concepts of business analytics.  |
| <b>CLO2</b> | Use appropriate models of analysis, assess the quality of input, derive insight from results, and investigate potential issues.                                 |
| <b>CLO3</b> | Apply optimization techniques, mathematical and statistical models, programming languages, and computing theory to effectively construct and use data analysis. |
| <b>CLO4</b> | Effectively communicate data findings to any audience using oral, visual, and textual formats.  |

**Mapping of CLO with PLO:**

| <b>Course Learning Outcomes (CLO):</b> | <b>Program Learning Outcome (PLO)</b> |             |             |             |
|--|---------------------------------------|-------------|-------------|-------------|
|  | <b>PLO1</b>                           | <b>PLO2</b> | <b>PLO3</b> | <b>PLO4</b> |
| <b>CLO1</b>                            | 3                                     |             |             |             |
| <b>CLO2</b>                            |                                       | 3           |             |             |
| <b>CLO3</b>                            |                                       |             | 3           |             |
| <b>CLO4</b>                            |                                       |             | 2           |             |

## Course Plan

| Week | Topics  | Teaching Learning Strategy | Assessment Strategy                 | Corresponding CLOs |
|------|---|----------------------------|-------------------------------------|--------------------|
| 1    | <p><b>OVERVIEW OF THE COURSE:</b><br/>Discussion on Course Objectives, Learning Outcomes, Assessment Strategies, Required Textbooks, and Course Materials.</p> <p><b>Introduction to Business Analytics:</b></p> <ul style="list-style-type: none"> <li>• Definition and scope of business analytics</li> <li>• Types of analytics: Descriptive, Predictive, and Prescriptive</li> <li>• Role of analytics in decision-making</li> <li>• Business analytics lifecycle</li> <li>• Tools and technologies overview (Excel, SQL, Python/R, Tableau, etc.)</li> </ul> | Class Lectures             | Class Participation and Quizzes     | CLO1 CLO2          |
| 2    | <p><b>Data Management and Visualization:</b></p> <ul style="list-style-type: none"> <li>• Data types and data sources</li> <li>• Data collection and preprocessing</li> <li>• Data quality and cleaning</li> <li>• Data warehousing and databases (SQL basics)</li> <li>• Data visualization techniques</li> <li>• Dashboards and storytelling with data (Tableau/Power BI)</li> </ul>  | Class Lectures             | Class Participation and Quizzes     | CLO1 CLO2 CLO4     |
| 3    | <p><b>Statistical Analysis for Business</b></p> <ul style="list-style-type: none"> <li>• Descriptive statistics</li> <li>• Probability distributions</li> <li>• Hypothesis testing</li> <li>• Correlation and regression analysis</li> <li>• Inferential statistics</li> </ul>  | Class Lectures             | Class Participation and Quizzes     | CLO2               |
| 4    | <p><b>Predictive Analytics</b></p> <ul style="list-style-type: none"> <li>• Linear and logistic regression</li> <li>• Time series analysis and forecasting</li> <li>• Decision trees and random forests</li> <li>• Clustering (K-means, hierarchical)</li> <li>• Model evaluation techniques (accuracy, confusion matrix, ROC, etc.)</li> </ul>   | Class Lectures             | Class Participation and Assignments | CLO2 CLO3          |
| 5    | <p><b>Prescriptive Analytics and Optimization</b></p> <ul style="list-style-type: none"> <li>• Linear programming</li> <li>• Integer programming</li> <li>• Simulation modeling</li> <li>• Decision analysis (decision trees, utility theory)</li> <li>• Resource allocation and supply chain models</li> </ul>   | Class Lectures             | Class Participation and Quizzes     | CLO5               |
| 6    | <p><b>Machine Learning for Business</b></p> <ul style="list-style-type: none"> <li>• Introduction to machine learning</li> <li>• Supervised vs. unsupervised learning</li> <li>• Classification and clustering models</li> <li>• Model validation and tuning</li> <li>• Business use cases of ML (churn prediction, fraud detection)</li> </ul>   | Class Lectures             | Class Participation and Quizzes     | CLO5               |

|       |   |                |                                      |      |
|-------|---|----------------|--------------------------------------|------|
| 7-8   | <b>Analytics Tools and Platforms</b> <ul style="list-style-type: none"> <li>• Excel for analytics</li> <li>• SQL for data queries</li> <li>• Python/R for analytics (NumPy, Pandas, scikit-learn)</li> <li>• BI Tools (Tableau, Power BI)</li> <li>• Cloud-based platforms (Google Analytics, AWS, Azure ML)</li> </ul>   | Class Lectures | Class Participation and Quizzes      | CLO5 |
| 9-10  | <b>Domain-Specific Applications</b> <ul style="list-style-type: none"> <li>• Marketing analytics (customer segmentation, campaign analysis)</li> <li>• Financial analytics (risk modeling, portfolio analysis)</li> <li>• HR analytics (employee attrition, workforce planning)</li> <li>• Operations and supply chain analytics</li> <li>• Healthcare, retail, and e-commerce analytics</li> </ul> | Class Lectures | Class Participation and Presentation | CLO6 |
| 11-13 | <b>Ethics and Data Privacy</b> <ul style="list-style-type: none"> <li>• Data governance and ethics</li> <li>• Regulatory compliance (GDPR, HIPAA)</li> <li>• Responsible AI and bias mitigation</li> <li>• Ethical implications of data use</li> </ul>  | Class Lectures | Class Participation and Quizzes      | CLO5 |

**Assessment and Evaluation:**

| Title                              | Marks       |
|------------------------------------|-------------|
| Class Attendance                   | 05%         |
| Quiz/Class Test/Tutorial/In-course | 10%         |
| Assignment                         | 10%         |
| Presentation                       | 05%         |
| Mid Semester Examination           | 30%         |
| <b>Total Continuous Assessment</b> | <b>60%</b>  |
| Final Examination                  | 40%         |
| <b>Total</b>                       | <b>100%</b> |

**Recommended Readings:**

**Business Analytics: Data Analysis & Decision Making**, S. Christian Albright & Wayne L. Winston  
**Business Analytics: The Art of Modeling with Spreadsheets**, Stephen G. Powell, Kenneth R. Baker  
**Data Science for Business**, Foster Provost & Tom Fawcett

|                      |                  |
|----------------------|------------------|
| <b>Course Code:</b>  | MIS 5206         |
| <b>Course Title:</b> | Viva-Voce        |
| <b>Course Type:</b>  | Compulsory       |
| <b>Term:</b>         | 2                |
| <b>Credit:</b>       | 3                |
| <b>Contact Hour:</b> | 45 Hours         |
| <b>Total Marks:</b>  | <b>Viva-Voce</b> |
|                      | 100              |
|                      | 100              |

|                      |                                |                            |
|----------------------|--------------------------------|----------------------------|
| <b>Course Code:</b>  | MIS 5205                       |                            |
| <b>Course Title:</b> | Research Paper                 |                            |
| <b>Course Type:</b>  | Compulsory                     |                            |
| <b>Term:</b>         | 2                              |                            |
| <b>Credit:</b>       | 3                              |                            |
| <b>Contact Hour:</b> | 45 Hours                       |                            |
| <b>Total Marks:</b>  | <b>Supervisor's Evaluation</b> | <b>Defense (Viva-Voce)</b> |
|                      | 70                             | 30                         |
|                      | 100                            |                            |