



# Course Curriculum



## Courses Covered by IDRBT

1. IT Infrastructure Management
2. Enterprise Network Management
3. Information & Cyber Security
4. IS Regulatory Framework
5. Digital Financial Infrastructure and Banking
6. Adoption of AI/ML for Banking
7. Innovation and Emerging Technology



## Courses Covered by NIBM

1. Digital Lending
2. Business Data Analytics
3. Modern Concepts of Risk Management
4. Digital Marketing
5. Financial Market Analytics
6. Regulatory and Supervisory Framework
7. Banking and Digital Transformation



# Capstone Group Project



1. **Group Size:** 2 to 3 participants, with an ideal size of 2.
2. **Overview:** The project starts at the first campus immersion and ends with a report submission and presentation at the final immersion.
3. **Guide Allocation:** The program coordinators will assign a guide based on the chosen topic and the guide's expertise.



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# Modules



## Banking and Digital Transformation

- Digital Banking Eco-System
- Digital Payments
- FinTech in Banking
- Digital Banking Frauds and Controls
- Blockchain Technology
- Cryptocurrency and Central Bank Digital Currency
- Open Banking
- AI in Banking
- Cloud Computing
- Digital Transformation in Banking (Case Study)

## Regulatory and Supervisory Framework

- AML and FIU: Roles and responsibilities of compliance officers
- Basel norms, Risk Governance and risk related compliances
- Understanding KYC
- Compliances related to branch operations
- Understanding early warning signals for credit-case study 1
- Understanding early warning signals for credit-case study 2
- FEMA compliance
- Trade based Money Laundering: Introduction
- TBML: early warning signals and FATF-case discussion 1
- TBML: early warning signals and FATF-case discussion 2

## Digital Lending

- Retail Credit Market analysis and
- Digital Public Infrastructure
- Overview of Digital Lending
- Loan Origination and Management
- Digital Lending Models for MSME and Retail Finance
- Emerging Digital Platforms for Lending
- Underwriting using Alternate Lending Models
- Leveraging Technology for Loan Recovery and Monitoring
- Supply Chain Finance (SCF)
- Peer to Peer Lending (Case Study)

## Financial Market Analytics

- Overview of Financial Markets and Instruments
- Global Financial Markets: Trends, Integration, and Dynamics
- Macro-Financial Dynamics and Analysis
- Fixed Income Analytics
- Equity Valuation Models
- Portfolio Theories and Optimization
- Financial Derivatives: Pricing, Valuation, and Applications
- Exchange Rate Dynamics and Currency Analytics
- Financial Econometrics and Time Series Modelling
- Application of Data Science and Machine Learning Techniques in Financial Market

## Business Data Analytics

- Introduction to Business Data Analytics
- Data Analysis tools and techniques (Hands-on)
- Banking Analytics & its applications
- Customer segmentation strategies & applications (Hands-on)
- Basics of Statistical Applications
- Hypothesis Testing
- Regression Analysis
- Predictive Analytics using the KNN, Decision Trees
- Customer Behavioural Analysis using Clustering Techniques such as K-Means.
- Customer Lifetime Value Prediction

## Modern Concepts of Risk Management

- Overview of Risk Management and the Basel Accords
- Overview of Credit Risk and its Drivers
- Portfolio Credit Risk Management
- Overview of Market Risk Management
- Assets Liability Management and Liquidity Risk Management
- Modern Tools of Market Risk Management: VAR and Expected Shortfall
- Operational Risk Management and the Basel Accords
- Tools of Operational Risk Assessment
- Emergence of new Pillar 2 Risks
- Risk Adjusted Performance Measurement

## IS Regulatory Framework

- Cyber Security Evolution: From the Gopalkrishnan Committee Report to Latest Directions
- Security Standards: NIST and Beyond Evolving Cyber Security Frameworks
- IS Audit and Control
- Cyber Hygiene and Culture
- Understanding the Need of Red/Blue/Purple Teaming
- Securing Tomorrow: Practical Cyber Exercises & Case Studies
- Regulatory Guidelines: Governance, Risk Management and Assurance

## Information & Cyber Security

- Introduction to Information & Cyber Security
- Cyber Security Principles: CIA and A.A.N – Commitment to Context Security
- Vulnerability & Incident Management
- Automated Information Systems (AIS) environment
- Cyber Security Playbook
- Application Security
- Effective BCP and Disaster Management

## Digital Financial Infrastructure and Banking

- Journey of Digitization to Digital Transformation in Banking Services
- Road towards Delivery Channels
- Role of FinTech, RegTech, SupTech, and InclusiveTech
- APIs Layer Infrastructure and Security
- Navigating the Future through Web3 and Distributed Ledger Technology
- Embedded Banking Applications

## Digital Marketing

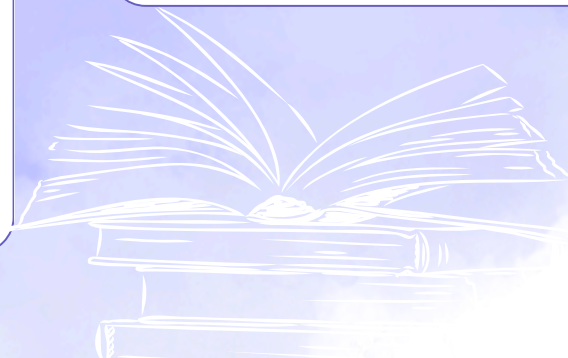
- Customer Facilitation Using Digital Tools and Self-Service Technologies
- Customer Engagement in a Digital World
- Customer Digital Journeys
- Customer Analytics
- CRM for Acquisition and Customer Loyalty
- Digital Marketing and Customer Acquisition Strategies
- Personalization and cross-selling strategies
- Managing e-Service Quality and Digital Experiences
- Omnichannel Management for Successful Digital Transformation
- Emerging Digital Technologies – Virtual and Augmented Reality

## IT Infrastructure and Cloud Management

- Introduction to Infrastructure Management
- Teams and Team Dynamics: Negotiation Skills and Conflict Resolution
- Security Fortification: Essential Tools and Strategies for SOC/NOC
- Project and Resource Management
- Cloud Fundamentals: IaaS, PaaS, SaaS, Green SASE Edge
- Cloud Deployment and Delivery Models
- Cloud Optimization, Auditing, and Migration Strategies

## Enterprise Network Management

- Networking Fundamentals
- Building a Culture of Network Security
- Journey of Network Infrastructure: Horizontal and Vertical Traffic
- Network Behaviour Analysis
- Managing Air-Gapped Environments with SIEM
- Harnessing the Future of Networks: SDN, SD-WAN, SASE, and 5G for the BFSI Sector





# Modules



## Adoption of AI/ML for Banking

- Insight Revolution: Harnessing Data and Intelligence
- Effective Usage of GenAI, Explainable AI, and ML for Prediction Analysis
- ML with Business Application
- Data Fortification: Privacy and Protection in the Digital Age
- Privacy-Preserving ML
- Regulatory Compliance and Reporting

## Innovation and Emerging Technology

- Emerging Security Initiatives including, Threat Hunting Dark Web Monitoring
- Deception Technology
- Proactive Cyber Resilience
- Quantum Leap in Banking and Finance
- NIST standards for Quantum-safe Crypto
- Quantum Computing

\*Specialized topics can be tailored to address the specific needs and requirements of the sponsored banks.

## Course delivery by

- Faculty of IDRBT and NIBM
- CXO Level Leaders from Banks Regulators: RBI, Cert-In, NCIIPC, etc.
- Solution Architects from ICT Industry / OEMs

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