



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. Risk Analytics and 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
- Digital Transformation in Banking

Digital Lending

- Conceptual Framework
- Traditional Lending to Digital Lending
- 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

Regulatory and Supervisory Framework

- Roles and Responsibilities of Compliance Officers
- Basel Norms, Risk Governance and Risk-related Compliances
- KYC, AML Compliance
- FEMA Compliance
- Compliances in Credit
- Compliances Related to Branch Operations

Business Data Analytics

- Introduction to Business Analytics and its Types
- Examining Data Distribution and Data Visualization
- Hypothesis Setting & Model Building Steps
- Regression Analysis for Examining Profitability and Performance
- Predictive and Descriptive Modelling Techniques
- Banking Applications using Techniques like Decision Trees, KNN, K-Means
- Random Forest and Logistic Regression Techniques
- Forecasting Models and its Applications in Banking
- Multivariate Approaches
- Interpretation and Validation of Multivariate Result

Financial Market Analytics

- Importance of Programming Languages like Python
- Data Handling and Visualization
- Equity Market Trend Analysis
- Portfolio Optimisation
- Sentiment Analysis
- Credit Risk Applications

Risk Analytics and Management

- Overview of Risk Management and the Basel Accords
- Overview of Credit Risk and its Drivers
- Credit Risk Analytics – Expected and Unexpected Losses
- Credit Risk Analytics – Stress Tests and Scenario Analysis
- Overview of Market Risk Management
- Fixed Income Analytics
- Simulation Models and Stress Tests
- Operational Risk Management and the Basel Accords
- Scenario Analysis for Operational Risk Management
- Analytics for ALM



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
- Digital Marketing and Customer Acquisition Strategies
- Digital Customer Journeys
- Customer Analytics
- Personalization and Cross Selling Strategies
- Use of Machine Learning and Natural Language Processing
- CRM for Acquisition and Customer Loyalty
- Managing e-Service Quality and Digital Experiences
- Emerging Digital Technologies – Virtual and Augmented Reality
- Omnichannel Management for Successful Digital Transformation

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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