

## Topic Outline

### FT100: BFSI Basics & Introduction to FinTech

#### FT101: Introduction to Banking & Financial Services Industry

- Bank's Financial Statements & Business
  - => *Understanding various Banking Business & Product Segments & trade nuances*
  - => *Understanding traditional sales channels (Live example & walkthrough from websites)*
  - => *Dissecting Bank's Financials (Comparing and contrasting Bank's Published Financials)*
- RegTech + Common Regulatory Framework - KYC, AML & others

#### FT102: What is FinTech? Why Fintech exists? Drivers of Change:

- => *Banking Pre & Post 2008*
- => *What is Financial Innovation and How FinTech differs*
- => *Increased Competition - New Bank licensing, Payment Banks & Wallets*
- => *Steps taken for consumer empowerment*
- => *New directives like Payment Services Directive (eg. PSD2 in EU)*
- => *Change in Service delivery and Consumption pattern*
- => *Demographic characteristics, Consumer behavior and Trends*

### FT200: Foundation for Information Technology

#### FT201: Introduction to Programming, Logic Building & Pseudocode

- What are programs? Structure and Flow
- What are algorithms? Art of problem solving
- VBA
- Basic Building Blocks of Programs
  - => Operators
  - => Variables, Constants and Arrays
  - => Conditional Statements (If then else, select case etc)
  - => Loops (For, For Each, Do while etc)

#### FT202: Basics of Python

- Installing Python, Environment setup and overview
- Basic Syntax
- Variable Types & declaration
- Basic Operators and Decision making
- Loops
- Numbers, string, list, tuples and dictionaries
- Functions & Libraries
- Basic File I/O

### FT300: Setting up new Business, Products and Channels

#### FT301: Startup Ecosystem

- Journey from Idea generation to Market Segmentation and Customer Targeting (Case studies)
- Creating Business plan and Business Pitch (based on Case studies and Examples)
- Indian and Global Scenario - What works and Why (Case studies)
- Regulatory Considerations, Tax Breaks and Structuring

<b>FT302: Design Thinking, Digital Strategy and Gamification</b>
• Design thinking considerations, Consumer behavior and UI/UX (Case studies and Examples)
• Gamification (Case studies and Examples)
• Building Digital Strategy with Game Theory, Digital Marketing & analytics
<b>Mini Project on Business + IT Foundation (FT100+FT200+FT300)</b>
<b>FT 400: Enabling Technologies for FinTech</b>
<b>FT 401: Blockchain</b>
=> What is Distributed Ledger Technology (DLT) and where Blockchain Fits in.
=> Introduction to Hash functions, what is ideal hash and related security considerations
=> Introduction to Digital Signatures & PKI architecture
=> Various Consensus Mechanism, Oracles and Future of Blockchains (including Hashgraphs)
=> Various Blockchain Frameworks and identifying best for the given problem
=> Lab: Hands on experience on two of the most popular Blockchain frameworks including Bankchain
=> Lab: Storing simple data structure using Blockchain
=> Lab: Blockchain Security considerations, standards and auditing
<b>FT 402: Cryptocurrencies &amp; ICOs</b>
=> What is Crypto Currency? How it works? Transaction Fees and Ethereum Gas.
=> Understanding Bitcoin and AltCoins. Mining Algos & Incentives, Different Wallets and usage.
=> What is a Smart Contract? Usage and practical nuances.
=> World of Initial Coin Offerings (ICO): Types, Issuance, players, lifecycle and Regulatory challenges
=> Lab: Creating a simple smart contract and issuing token
<b>Mini Project on Blockchain</b>
<b>FT 403: Introduction to Artificial Intelligence and Machine Learning</b>
=> What is Machine Learning and How its done? Various algorithms and relevancy (Case studies)
=> Lab: Hands on Machine learning for Finance
<b>Mini Project on AI/ML</b>
<b>FT 404: Big Data &amp; Data Visualization</b>
=> What is Big Data? How it is different? When to use it?
=> Understanding Different Bigdata frameworks, pros & cons and selection process (Case Studies)
=> Lab: Hands on Big Data Analytics with real-life datasets
<b>Mini Project on Bigdata</b>
<b>FT 405: Internet of Things and Internet on Things</b>
=> Understanding the world of IoT. Different Sensors and Usage including smart packaging
=> What is internet on things and how is it different from IoT (Case Studies)
=> Lab: Introduction to Raspberry Pi 3 & Raspbian OS
=> Lab: Using Python and Mathematica to access GPIO and Sensors
<b>FT 406: Application Programming Interface (APIs)</b>
=> Lab: What is an API? Structure and Usage? Request Types & Security Considerations.
=> Lab: Understanding India Stack and other useful APIs.
=> Lab: Integrating different APIs
<b>Mini Project on API</b>

<b>FT500: Payments</b>
<b>FT501: Consumer and Retail Payments</b>
• Introduction to Payment Ecosystem, players, processes, modes and various charges
• Innovation in Consumer and Retail payments led by Govt & Private Sector (Case Studies & Examples)
• Relevant Regulations and New Payments Banks
• Innovative Products in Mobile based, Person to Person, Credit Cards, POS based ecosystem (Case studies)
=> Innovation on both Hardware and Software front
=> Launch of Innovative new Products
=> P2P domestic and cross border payments
=> Micro-transactions and Gamification
<b>FT502: Wholesale &amp; Corporate Payments</b>
=> Harmonization of standards and markets
=> B2B & B2B2C solutions, Trade Finance, API Banking
=> Cash Management Services & Solutions
=> Import/Export and International Payments
<b>FT503: Use of Technology in Payments</b>
=> Use of Blockchain and Crypto currencies in payment (Case Studies)
=> Use of IoT and Big Data (Case Studies)
=> Use of AI & ML + Bots (Case Studies)
=> Integrating different technologies for Segmentation, Risk management and JIT Analytics
<b>Major Group Project on Payments Domain using Emerging Technologies</b>
<b>FT600: Lending</b>
<b>FT601: Introduction to Lending and Process of Risk Management</b>
=> Concept of Capital Adequacy, Capital Optimization, Capital Planning and Risk Weighted Assets
=> NPA management, ARC Sale
<b>FT602: Retail &amp; Consumer Lending</b>
=> Various type of consumer loans products incl. CC. Need for Product Segmentation & Criteria
=> Measuring Ability to Pay vs Intent to Pay and factors involved
=> Regulatory Framework for Banks & NBFCs
=> Lead lifecycle - Traditional vs New Fintech Approach (Case Studies)
=> Social media based profiling, comparison tools and aggregators (Case Studies)
=> Dynamic credit rating, Risk management & underwriting (Case Studies)
=> New Lending models, Crowdsourcing P2P lending approach, Hybrid lending, Crypto Lending & Pool Lending
=> Financial Inclusion and Frugal Tech (Banking from feature phones & Micro ATM/ Bank Mitra)
=> Lab: Using Credit Counsellor Robo/Bot for faster approvals & funding (Watson+Case studies)
=> Lab: Utilizing data science tools and machine learning for data mining/ cross sale (Case Studies)
<b>Mini Project on Retail &amp; Consumer Lending</b>
<b>FT603: Wholesale &amp; Commercial Lending</b>
=> Various type of wholesale finance requirements, funded and non-funded products
=> Regulatory Framework Banks & NBFC (specific to wholesale SBL/GBL, provision, monitoring etc)
=> Project Finance and Loan Structuring (Put/Call/Reset/ Asset backed)
=> Risk diversification and Risk recalibration (Syndication, IBPC, PSL etc)
=> SME/MSME Lending: Unique opportunities and Challenges, Solutions and Innovations (Case Studies)
=> B2B Market Place: Auction Financing, Equity-based crowdfunding, e-Microfinance
<b>FT604: Impact of FinTech on Other Industries: InsurTech, WealthTech &amp; RegTech Considerations</b>
<b>Major Group Project on Lending Domain using Emerging Technologies</b>