

Course Code	Course Title	L	T	P	C
BAMGT217	FinTech	3	0	0	3
Pre-requisite	NIL	Syllabus Version			
		1			
Course Objectives					
Provide students with a comprehensive understanding of the evolution, ecosystem, and technologies driving FinTech. Develop analytical and problem-solving skills using data-driven approaches, algorithms, and AI/ML applications in financial services. Enhance awareness of regulatory, ethical, and risk management challenges in FinTech while exploring innovative business models and career opportunities.					
Course Outcomes					
Explain the evolution, scope, and significance of FinTech, highlighting the global and Indian digital finance landscape. Demonstrate key developments in digital banking, payment systems, and regulatory frameworks, emphasizing associated Examine risks, compliance, and ethical considerations Apply data analytics techniques—including supervised, unsupervised, and predictive modelling—for financial applications such as credit scoring, fraud detection, and robo-advisory solutions. Assess emerging trends in FinTech, including algorithmic trading, ESG integration, and evolving career pathways in digital finance.					
Module:1	Introduction to FinTech Ecosystem and Key Technologies	7 hours			
FinTech - Importance, Evolution, Traditional Finance vs FinTech, Key players, Role of FinTech in financial inclusion and economic development, FinTech ecosystem; Core Technologies: APIs, Cloud Computing, AI/ML, Blockchain, Cryptocurrencies, Smart Contracts and Decentralized Applications (dApps), Central Bank Digital Currencies (CBDCs), FinTech startups in India and their growth trajectory, FinTech Unicorns and their Business Models; Use cases.					
Module:2	FinTech Models and Segments	8 hours			

Evolution of Digital Payment Systems and real-time infrastructure, Payment Gateways, Mobile Wallets, contactless payments, Instant payment systems and recent innovations, Embedded finance in payments, Retail Banking Innovations, Open banking and Account Aggregator framework, InsurTech, WealthTech, RegTech.		
Module:3	Risk and Regulations in FinTech	8 hours
Types of risks in FinTech, Data privacy and protection frameworks (e.g., India's DPDP Act 2023), Regulatory compliance: KYC, AML, and fraud prevention, Institutional oversight: Role of RBI, SEBI, IRDAI, Regulatory Sandboxes and Innovation Hubs, Regulatory developments: FATF guidelines, crypto taxation, compliance landscape, Ethics in FinTech: fairness, transparency, responsible innovation. Selected Harvard case studies.		
Module:4	FinTech Analytics and Data Applications	10 hours
Overview of data analytics, data types in finance; structured, unstructured, challenges of data quality, descriptive and predictive techniques in FinTech; Overview of supervised learning (classification, regression) and unsupervised learning (clustering, dimensionality reduction) in FinTech applications, Credit scoring and alternative data models; customer profiling and personalization; fraud detection using anomaly detection; model interpretability.		
Module:5	Algorithmic and High Frequency Trading	10 hours
Market micro-structure; Algorithmic Trading, Order Types and Order Book Dynamics; price-time priority; spoofing and market manipulation concerns, Execution Strategies for Large Volume Trades; VWAP, TWAP, guerrilla algorithms, iceberg orders, High-Frequency Trading (HFT); concepts, strategies, risks and regulatory perspectives, System Architecture and Infrastructure, components of an automated trading system, infrastructure requirements for an algorithmic trading desk.		
Module:6	Contemporary Topics	2 hours
Guest lectures by industry experts; emerging themes such as ESG in FinTech; responsible innovation and sustainability in digital finance; robo-advisory and AI-driven investment decisions; career opportunities and skillsets required in the evolving FinTech landscape.		
Total Lecture Hours:		45 hours
Text Book(s)		
Chishti, Susanne & Barberis, Janos, " The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries ", Wiley, 1 st Edition, 2016		

Gupta, Pranay & Tham, T. Mandy , " FinTech: The New DNA of Financial Services ", World Scientific Publishing, 1 st Edition, 2018 Hijfte, Stijn Van , " An Introduction to FinTech: The Revolution of Financial Services ", O Reilly Media, 1 st Edition, 2023	
Reference Books	
Buckley, Ross P., Arner, Douglas W., & Zetsche, Dirk A. , " FinTech: Finance, Technology and Regulation ", Cambridge University Press, 1 st Edition, 2023 Mehta, Neel, Agashe, Aditya, & Detroja, Parth , " Blockchain Bubble or Revolution: The Future of Bitcoin, Blockchains, and Cryptocurrencies ", Harper Business, 1 st Edition, 2019 López de Prado, Marcos , " Advances in Financial Machine Learning ", Wiley, 1 st Edition, 2018	
Mode of Evaluation: Continuous Assessment Test, Quiz, Final Assessment Test, Seminar, Course Project, Case Study	
Recommended by Board of Studies :	26-09-2025
Approved by Academic Council : No. 80	20-11-2025