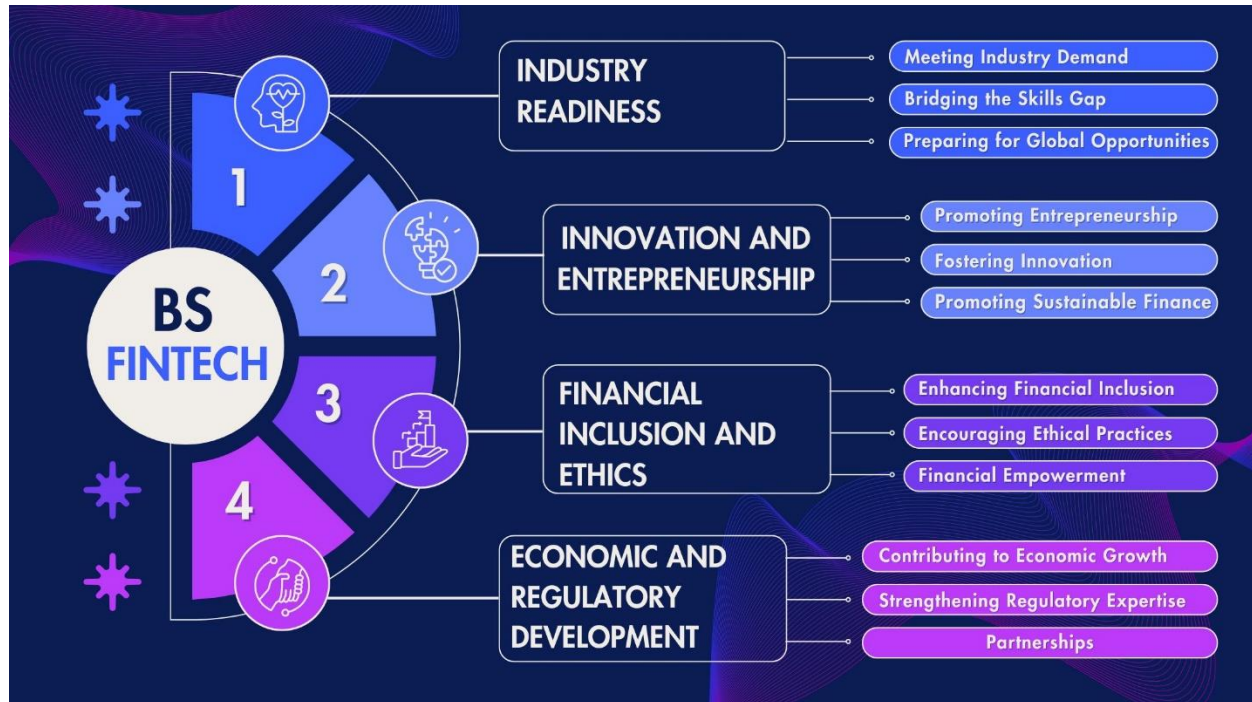


Bachelor of Science in Financial Technology (BS-FinTech)



Introduction

Financial Technology (FinTech) is revolutionizing the world of finance by blending cutting-edge technology with financial services to create faster, smarter, and more inclusive solutions. From mobile wallets and blockchain to AI-powered investment platforms, FinTech is reshaping how people bank, borrow, invest, and insure, all at the tap of a screen. Born out of the global financial crisis of 2008, FinTech rose as a bold alternative to traditional banking. Since then, it has evolved into a global powerhouse, driving innovation in digital payments, lending, wealth management, and insurance through breakthroughs in blockchain, artificial intelligence, and data analytics.

In Pakistan, FinTech is experiencing a powerful surge. With increasing smartphone use, widespread internet access, and government-backed digital initiatives like Raast and regulatory sandboxes, the country is laying the foundation for a thriving FinTech ecosystem. Startups across Pakistan are now solving real-world problems, offering digital payment solutions, enabling peer-to-peer lending, supporting microfinance, and bringing financial services to underserved communities. FinTech is not just a trend, it's a tool for financial inclusion, economic empowerment, and digital transformation in Pakistan.

Future Scope:

The Bachelor of Science in FinTech (BS FinTech) holds significant importance in Pakistan for several reasons:

- **Meeting Industry Demand:** Pakistan's financial industry is evolving rapidly, with increasing adoption of technology-driven solutions. There's a growing demand for professionals equipped with both financial and technological expertise to drive innovation in the sector. A BS FinTech program addresses this demand by producing graduates skilled in finance, mathematics, programming, and data analysis, making them well-suited for roles in the emerging FinTech landscape.
- **Bridging the Skills Gap:** Traditional finance education often lacks emphasis on technology-related skills essential for modern financial services. A BS FinTech program fills this gap by offering a multidisciplinary curriculum that combines finance, computer science, and data analytics. Graduates of this program possess a unique skill set that aligns with the needs of the evolving FinTech industry.
- **Promoting Entrepreneurship:** Pakistan has seen a rise in FinTech startups offering innovative solutions in areas such as digital payments, lending, and financial inclusion. A BS FinTech program fosters an entrepreneurial mindset among students, encouraging them to develop and implement novel FinTech solutions. These graduates may become the driving force behind the growth of the local FinTech ecosystem, contributing to economic development and job creation.
- **Enhancing Financial Inclusion:** FinTech has the potential to enhance financial inclusion by providing access to financial services for underserved populations. In Pakistan, where a significant portion of the population remains unbanked or underbanked, FinTech solutions can play a crucial role in expanding financial access. A BS FinTech program equips graduates with the skills to develop inclusive financial products and services tailored to the needs of diverse communities.
- **Contributing to Economic Growth:** The FinTech industry has the potential to drive economic growth by increasing efficiency, reducing costs, and fostering innovation in financial services. By producing skilled FinTech professionals, a BS FinTech program can contribute to Pakistan's economic development by supporting the growth of the financial sector, attracting investment, and creating employment opportunities. Overall, the significance of a BS FinTech program in Pakistan lies in its ability to address industry demand, bridge the skills gap, promote entrepreneurship, enhance financial inclusion, and contribute to economic growth in the country.

Career Choices:



While there are many opportunities in FinTech, the field also comes with exciting challenges, like understanding regulations, keeping systems secure, and building the right skills for a fast-changing industry. That’s what makes it a dynamic and rewarding career path for anyone ready to lead in the world of digital finance. Graduates of a BS FinTech program in Pakistan can pursue a wide range of roles across the financial, technological, and regulatory sectors. Here’s a categorized list of related jobs and career paths suitable for BS FinTech graduates in Pakistan:

FinTech Analyst	Software Engineer (Finance Apps)
Financial Data Analyst	Full Stack Developer (FinTech Solutions)
Blockchain Developer	Machine Learning Engineer(Financial)
Cryptocurrency Analyst	Data Scientist (FinTech)
Payment Systems Specialist	Cybersecurity Analyst (Digital Payments)
Robo-Advisory Consultant	AI/ML Specialist (Banking Automation)
RegTech Analyst (Regulatory Technology)	Software Engineer (Finance Apps)
Smart Contract Developer	Innovation Manager – Banks/DFIs
DeFi (Decentralized Finance) Analyst	Credit Scoring Analyst (using AI/ML models)
Digital Banking Officer	Financial Risk Analyst
E-Banking Specialist	Technology Risk Consultant
Financial Product Designer (App/Platform-based)	FinTech Strategy Consultant
Digital Wallet Manager (e.g., Easypaisa, JazzCash)	Financial Innovation Officer
Regulatory Affairs Analyst	Digital Policy & Innovation Analyst

Scheme of Studies BS-Fintech for batch Fall-2024 and onward:

Semester 1			
Course Code	Subject Name	Cr.Hrs	Pre-Req
CS 181	Applications of Information and Communication Technologies	2-0-2	-
CS 181L	Applications of Information and Communication Technologies Lab	0-1-1	-
AF 102	Financial Accounting-I	3-0-3	-
BA 151	Principles of Management	3-0-3	-
EL 170	Functional English	3-0-3	-
HU 124	Islamic Studies & Ethics	2-0-2	-
MA 120	Mathematics & Logics-I	3-0-3	-
Semester 2			
Course Code	Subject Name	Cr.Hrs	Pre-Req
EL 271	Expository Writing	3-0-3	EL 170
AF 103	Financial Accounting-II	3-0-3	AF 102
AF 120	Introduction to Psychology & Organizational Behavior	3-0-3	-
BA 135	Micro and Managerial Economics	3-0-3	-
HU 405	Ideology and Constitution of Pakistan	2-0-2	-
MK101	Principles of Marketing	3-0-3	-
EL 271	Expository Writing	3-0-3	EL 170
AF 103	Financial Accounting-II	3-0-3	AF 102
Semester 3			
Course Code	Subject Name	Cr.Hrs	Pre-Req
AF 251	Introduction to Business Finance	3-0-3	-
HU 411	Civics and Community Engagement	2-0-2	-
CS 111	Programming Fundamentals	2-0-2	
CS 111L	Programming Fundamentals Lab	0-1-1	
PH 112	Introduction to Environmental Science	3-0-3	-
AF 437	Commercial Banking and Lending	3-0-3	-
MA 121	Mathematics & Logics-II	3-0-3	MA 120
Semester 4			
Course Code	Subject Name	Cr.Hrs	Pre-Req
AF 252	Financial Management	3-0-3	AF 251
CS 214	Data Structures & Algorithms	2-0-2	CS 111
CS 214L	Data Structures & Algorithms Lab	0-1-1	CS 111
BA 356	Entrepreneurship	3-0-3	-
FT 212	Fintech and Financial Transformation	3-0-3	
AF 211	Financial Reporting 1	3-0-3	AF 103
BA 232	Macroeconomics	3-0-3	
Semester 5			

Course Code	Subject Name	Cr.Hrs	Pre-Req
AF 349	Auditing	3-0-3	
AF 327	Tax Management	3-0-3	-
BA 264	Corporate and Business law	3-0-3	-
BA 305	Business Ethics	3-0-3	
CS 230	Database Systems	2-0-2	CS 214
CS 230L	Database Systems Lab	0-1-1	CS 214
AF 353	Financial Institutions and Markets	3-0-3	-
Semester 6			
Course Code	Subject Name	Cr.Hrs	Pre-Req
IT 410	Digital Marketing	3-0-3	MK101
AF 372	Performance Management & Decision Making	3-0-3	AF 246
AF 358	Investment and Portfolio Management	3-0-3	AF 251
FT 331	Artificial Intelligence in Business Decision	3-0-3	CS 111
BA 363	Business Research Methods	3-0-3	-
Semester 7			
Course Code	Subject Name	Cr.Hrs	Pre-Req
FT 331	Blockchain Technology for Business	3-0-3	
FT 322	Data Analysis for Business	3-0-3	
AF XXX	Elective I	3-0-3	-
FT XXX	Elective II	3-0-3	
AF 496	Capstone Project-I	1-0-1	-
HR 301	Human Resource Management	3-0-3	BA 151
Semester 8			
Course Code	Subject Name	Cr.Hrs	Pre-Req
AF 482	Financial Risk Management	3-0-3	AF 252
AF468	Accounting Information System	3-0-3	AF 103
AF 497	Capstone Project-II	2-0-2	AF 496
AF XXX	Elective III	3-0-3	-
FT XXX	Elective IV	3-0-3	

Credit Hours Distribution:

Semester	1	2	3	4	5	6	7	8	Total Credit Hours
Credit Hours	17	17	17	18	18	15	16	14	135

Elective Courses:

Finance Electives			
Course Code	Subject Name	Cr.Hrs	Pre-Req
AF 486	Financial Derivatives - Theory and Practice	3-0-3	AF 252
AF 482	Financial Risk Management	3-0-3	AF 252
AF 484	Financial Modelling	3-0-3	AF 252
AF 485	Anti-Money Laundering-Measures and Controls	3-0-3	AF 252
AF 483	Islamic Finance	3-0-3	AF 252
AF 492	Analysis of Financial Statements	3-0-3	AF 252
AF 488	Stock Market & Trading	3-0-3	AF 252
AF 489	Strategic Financial Management	3-0-3	AF 252
AF 4XX	Mergers and Acquisitions	3-0-3	AF 252
AF 4XX	Entrepreneurial Finance	3-0-3	AF 252

Technology Electives:			
Course Code	Subject Name	Cr.Hrs	Pre-Req
FT 414	Cryptography for Finance	3-0-3	FT 331
FT 415	Digital Banking	3-0-3	AF 437
IT 271	Web Technologies	3-0-3	CS 214
FT 417	Machine Learning in Finance	3-0-3	CS 214
FT 418	Data Visualization	3-0-3	CS 214
CS 215	Information Security	3-0-3	CS 214