

For Batches 2025 & onwards
BS (Computational Finance) Scheme of Studies

FIRST YEAR									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	T			Th	Pr	T
ES-206/ ES 209	Islamic Studies / Ethical Behaviour (for non-muslims)	2	0	2	EA-128	Functional English	3	0	3
ES-108	Ideology and Constitution of Pakistan	2	0	2	MT-102	Quantitative Reasoning -II	3	0	3
AF-101	IT Fundamentals & Applications	2	1	3	CT-157	Data Structure Algorithm & Application	3	1	4
MT-101	Quantitative Reasoning -I	3	0	3	ES-105/ ES-127	Pakistan Studies / Pakistan Studies (for Foreigners)	2	0	2
MT-153	Principles of Economics	3	0	3	CT-153	Programming Languages	2	1	3
MT-155	Introduction to Financial Accounting	3	0	3					
Total Credit Hours		15	1	16	Total Credit Hours		13	2	15
SECOND YEAR									
Fall Semester					Spring Semester				
Course code	Course Title	Credit Hrs			Course code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
MT-253	Microeconomics	3	0	3	MT-257	Stochastic Calculus	3	0	3
EC-202	Cost Accounting	3	0	3	MT-251	Multivariate Calculus	4	0	4
MT-255	Introduction to Mathematical Finance	3	0	3	MT-154	Computer Applications in Finance	1	2	3
MT-171	Differential and Integral Calculus	3	0	3	MT-256	Macroeconomics	3	0	3
EA-244	Academic Reading & Writing	3	0	3	AF-201	Civics and Community Engagement	2	0	2
MT-156	Discrete Mathematics	3	0	3	MT-221	Linear Algebra & Ordinary Differential Equations	3	0	3
					AF-200	Community Service		-	NC
Total Credit Hours		18	0	18	Total Credit Hours		16	2	18
THIRD YEAR									
Fall Semester					Spring Semester				
Course code	Course Title	Credit H ours			Course code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
MT-351	Operations Research	3	0	3	MT-442	Numerical Methods	3	0	3
MT-352	Financial Management	3	0	3	MT-353	Discrete-Time Finance	3	0	3
MT-356	Stochastic Models in Finance	3	0	3	MT-355	Financial Risk Management	3	0	3
MT-354	Financial Derivatives	3	0	3	SE-307	E-Commerce	3	1	4
EA-301	Business and Organizational Communication	3	0	3	EA-311	Logic & Critical Thinking	3	0	3
MT-254	Statistical Inference	3	0	3	EA/ES- ###	Foreign Language-I	-	-	NC
Total Credit Hours		18	0	18	Total Credit Hours		15	1	16

FOURTH YEAR									
Fall Semester					Spring Semester				
Course code	Course Title	Credit Hours			Course code	Course Title	Credit Hours		
		Th	Pr	Tot			Th	Pr	Tot
MG-481	Entrepreneurship	3	0	3	MT-455	Econometrics	3	0	3
MT-451	Continuous-Time Finance	3	0	3	MT-456	Financial Engineering	3	0	3
MT-##	Elective-1	3	0	3	MT-##	Elective-3	3	0	3
MT-##	Elective-2	3	0	3	MT-##	Elective-4	3	0	3
MT-460	Computational Finance Project	0	3	3	MT-460	Computational Finance Project	0	3	3
EA/ES-###	Foreign Language-II	-	-	NC					
Total Credit Hours		12	3	15	Total Credit Hours		12	3	15
ELECTIVE COURSES									
Fall Semester					Spring Semester				
Course code	Course Title				Course code	Course Title			
		Th	Pr	Total			Th	Pr	Total
MT-452	Financial Modelling	3	0	3	MT-457	Numerical Computing in Finance	3	0	3
MT-453	Organizational Design and Implementation	3	0	3	MT-458	Islamic Banking & Financial System	3	0	3
MT-454	Fuzzy Sets and Fuzzy Logic	3	0	3	MT-459	Actuarial Science	3	0	3
MT-461	Financial Modelling and Business Evaluation	1	2	3					

Foreign Language-I & Foreign Language-II Courses

EA-220	Chinese Language – I (CL-I)	Non-credit / 3 contact hours
EA-224	German Language – I (GL-I)	
EA-226	French Language – I (FL-I)	
EA-231	Turkish Language – I (TL-I)	
ES-222	Arabic Language – I (AL-I)	
EA-233	Japanese Language – I (JL-I)	
EA-235	Russian Language – I (RL-I)	
EA-221	Chinese Language – II (CL-II)	
EA-225	German Language – II (GL-II)	
EA-227	French Language – II (FL-II)	
EA-232	Turkish Language – II (TL-II)	
ES-223	Arabic Language – I (AL-II)	
EA-234	Japanese Language – I (JL-II)	
EA-236	Russian Language – I (RL-II)	

Total Credit hours of proposed scheme = 131