



THE BEGUM NUSRAT BHUTTO WOMEN UNIVERSITY, SUKKUR

Scheme of Studies

BS Mathematics (4 Years)

BS Mathematics is four-year degree program(s) including 8 regular semesters of 18 week, total of a 136 credit hours.

SEMESTER – I (YEAR ONE)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	ECC 101	English Composition & Comprehension	3-0	
2	EDG 101	General Psychology	3-0	
3	ISL 101 /ETH 101	Islamic Studies / Ethics	2-0	
4	PHY 101	Physics I	3-1	
5	MTH 101	Calculus & Analytic Geometry	3-0	
		Sub Total Credit Hrs. in First Semester	15(14-1)	

SEMESTER – II (YEAR ONE)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	CSK 101	Communication Skills	3-0	ECC 101
2	MGT 306	Organizational Behavior	3-0	
3	LCT 101	Logic and Critical Thinking	3-0	
4	PHY 102	Physics II	3-1	PHY 101
5	MTH 102	Linear Algebra	3-0	MTH 101
		Sub Total Credit Hrs. in Second Semester	16(15-1)	

SEMESTER – III (YEAR TWO)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	TWP 201	Technical Writing and Presentation Skills	3-0	CSK 101
2	PST 201	Ideology & Constitution of Pakistan	2-0	



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3	FLL 101	Foreign Language (Arabic)	3-0	-
4	MTH 201	Mathematical Methods	3-0	
5	MTH 202	Probability & Statistics	3-0	
		Sub Total Credit Hrs. in Third Semester	14-0	

SEMESTER – IV (YEAR TWO)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	CSC 101	Programming Fundamentals	2-1	
2	MTH 215	Group Theory	3-0	
3	MTH 203	Differential Equations	3-0	MTH 102
4		Elective	3-0	
5		Elective	3-0	
		Sub Total Credit Hrs. in Fourth Semester	15 (14-1)	

SEMESTER – V (YEAR THREE)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	CSC 102	Object Oriented Programming	3-1	CSC 101
2	PHY 222	Classical Mechanics	3-0	PHY 105, PHY 106
3	MTH 317	Numerical Analysis	3-0	
4		Elective	3-0	
5		Elective	3-0	
		Sub Total Credit Hrs. in Fifth Semester	16(15-1)	

SEMESTER – VI (YEAR THREE)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	PHY 322	Fluid Mechanics	3-0	PHY 222
2	MTH 318	Real Analysis	3-0	
3	MTH 319	Mathematical Software	2-1	



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4		Elective	3-0	
5		Elective	3-0	
		Sub Total Credit Hrs. in Sixth Semester	15(14-1)	

SEMESTER – VII (YEAR FOUR)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	MTH 498	Final Year Project – I	0-3	
2	MTH 421	Optimization Theory	3-0	
3		Elective	3-0	
4		Elective	3-0	
5		Elective	3-0	
		Sub Total Credit Hrs. in Seventh Semester	15(12-3)	

SEMESTER – VIII (YEAR FOUR)

S. No	Course Code	Course Title	Credit Hours	Prerequisite
1	MTH 499	Final Year Project – II	0-3	MTH 498
2	MTH 422	Operations Research	3-0	
3		Elective	3-0	
4		Elective	3-0	
5		Elective	3-0	
		Total	15(12-3)	

Total Credit Hours: 15+16+14+15+16+15+15+15 = 136



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ELECTIVE COURSES:

Pure Mathematics Elective Courses				Applied Mathematics Elective Courses			
S. No	Course Code	Course Title	Credit Hours	S. No	Course Code	Course Title	Credit Hours
1	MTH 222	Measure Theory	3-0	1	PHY 327	Electromagnetism	3-0
2	MTH 223	Algebraic Topology	3-0	2	MTH 341	Analytical Dynamics	3-0
3	MTH 324	Galois Theory	3-0	3	PHY 330	Quantum Mechanics	3-0
4	MTH 325	Lie Groups	3-0	4	PHY 329	General Relativity	3-0
5	MTH 326	Rings and Modules	3-0	5	MTH 444	Dynamical Systems	3-0
6	MTH 327	Projective Geometry	3-0	6	PHY 423	Computational Fluid Dynamics	3-0
7	MTH 328	Riemannian Geometry	3-0	7	PHY 328	Special Relativity	3-0
8	MTH 229	History of Mathematics	3-0	8	MTH 447	Statistical Inferences	3-0
9	MTH 430	Pointless Topology	3-0	9	MTH 448	Convex Analysis	3-0
10	MTH 331	Econometrics	3-0	10	MTH 349	Applied Algebra	3-0
11	MTH 432	Advanced group Theory	3-0	11	MTH 350	Bio Mathematics	3-0
12	MTH 333	Lie Algebra	3-0	12	MTH 451	Stochastic Processes	3-0
13	MTH 334	Axiomatic Set Theory	3-0	13	MTH 452	Regression Models	3-0
14	MTH 435	Category Theory	3-0	14	MTH 453	Multivariate Analysis	3-0
15	MTH 447	Statistical Inferences	3-0	15	MTH 454	Financial Mathematics	3-0
16	MTH 448	Convex Analysis	3-0	16	MTH 455	Tensor Analysis	3-0
17	MTH 438	Homological Algebra	3-0	17	PHY 456	Astronomy	3-0
18	MTH 239	Fuzzy Set Theory	3-0			Total (select 12 courses)	36
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