



THE BEGUM NUSRAT BHUTTO
WOMEN UNIVERSITY, SUKKUR

Scheme of Studies

BS Statistics (4 Years)

Department	Natural Sciences	Cluster	Courses	Crd. Hr
Program	BS Statistics	General Education Requirements	12	30
Total Credit-hours	132	Major Requirements	28	84
Total Courses	46	Allied Course Requirements	4	12
Total Semesters	8	FYP Requirements	2	6

SEMESTER 1 (YEAR 1)

S. No	Code	Course	Subject Area/Level	Pre-req	Credit hours
1	GED 100	Philosophy	Arts and Humanities	None	2
2	PHY 100	Introduction to Physics	Natural Sciences	None	2+1
3	GED 101	English Composition & Comprehension	Functional English	None	3
4	GED 104	Exploring Quantitative Skills	Quantitative Reasoning	None	3
5	STA 100	Introduction to Statistics	Foundation	None	3
6	MTH 108	Mathematics for Business	Foundation	None	3
					17(16+1)

SEMESTER 2 (YEAR 1)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	GED 107	General Psychology	Social Science	None	2
2	GED 103	Technical Writing and Presentation Skills	Expository Writing	None	3
3	GED 105	Tools for Quantitative Reasoning	Quantitative Reasoning	None	3
4	GED 201	Islamic Studies/Ethics	-	None	2
5	STA 210	Introduction to Probability & Probability Distributions	Foundation	None	3
6	MTH 101	Calculus & Analytical Geometry	Allied	None	3
7	GED 203	Applications of Information and Communication Technologies (ICT)	Foundation	None	2+1
					19(18+1)



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SEMESTER 3 (YEAR 2)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	STA 211	Statistical Computer Packages		None	2+1
2	GED 204	Ideology and Constitution of Pakistan	-	None	2
3	GED 205	Civics and Community Engagement	-	None	2
4	STA 220	Statistical Inference-I		None	3
5	STA 312	Applied Statistics	Foundation	None	3
6	GED 202	Entrepreneurship		None	2
7	MTH 102	Linear Algebra	Allied	MTH 101	3
					18(17+1)

SEMESTER 4 (YEAR 2)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	STA 102	Biostatistics	Core	None	3
2	STA 222	Experimental Design I	Core	None	2-1
3	STA 224	Regression Analysis	Core	None	3
4	MTH 343	Multivariable Calculus	Allied	None	3
5	STA 230	Introduction to Finance	Core	None	3
6	STA 220	Statistical Inference-I	Core	None	3
					18(17+1)

SEMESTER 5 (YEAR 3)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	STA 333	Probability Distribution-I	Core	None	3
2	STA 335	Sampling Technique-I	Core	None	3
3	STA 338	Experimental Design II	Core	STA 222	2-1
4	STA 330	Statistical Software-I	Core	None	0-3
5	STA 339	Statistical Inference-II	Core	STA 220	3
					15(11+4)



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SEMESTER 6 (YEAR 3)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	STA 334	Probability Distribution-II	Core	STA 333	3
2	STA 336	Sampling Technique-II	Core	STA 335	3
3	MTH 300	Numerical Analysis	Core	None	3
4	MTH 340	Econometrics	Allied	None	3
5	STA 337	Multivariate Analysis-I	Core	None	3
					15(15+0)

SEMESTER 7 (YEAR 4)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	STA 432	Multivariate Analysis-II	Core	STA 337	3
2	STA 430	Statistical Software-II	Core	STA 330	0-3
3			Elective		3
4			Elective		3
5	STA 498	Final Year Project I	FYP I	None	0+3
					15(9+6)

SEMESTER 8 (YEAR 4)

S. No	Code	Course	Subject Area/Level	Pre-req	
1	STA 431	Statistical Software-III	Core	STA 430	0-3
2	STA 433	Population Studies	Core		3
3			Elective		3
4			Elective		3
5	STA 499	Final Year Project II	FYP II	STA 498	0+3
					15(9+6)

LIST OF ELECTIVE COURSES:

Code	Course	Pre-re	Credit Hours
STA 450	Time Series Analysis	None	3
CML 410	Bayesian Machine Learning	None	2-1
CML 411	Machine Learning	None	2-1
CML 412	Artificial Neural Networks	CML 411	2-1
CML 413	Natural Language Processing (NLP)	CML 412	2-1
CML 414	Computer Vision	CML 413	2-1
CML 415	Big Data	None	2-1



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CML 416	Data Mining	CML 415	2-1
STA 451	Demography		3
STA 452	Analysis of Repeated Measurements		3
STA 453	Bio-informatics		3
STA 454	Hospital Management		3
STA 455	Design & Analysis of Medical Studies		3
STA 456	Epidemiology		3
STA 460	Clinical Trials		3
STA 461	Survival Analysis		3
STA 462	Non-Linear and Dynamic Programming		3
STA 463	Sequential Optimization		3
STA 464	Inventory Systems & Modeling		3
STA 465	Decision Analysis		3