School of Basic Sciences MSc Mathematics

1 Year									
1 Semester									
Sl No	**Course Name**	**Course T**	**Course L**	**Course C**	**L**	**T**	**P**	**S**	**C**
1	Advanced Abstract Algebra	Major		Theory	3	1	0	0	4
2	Advanced Analysis	Major		Theory	3	1	0	0	4
3	Theory of Ordinary Differential Equations	Major		Theory	3	1	0	0	4
4	Linear Algebra and Matrix Theory	Major		Theory	3	1	0	0	4
5	Programming in Python	Major		Blended	3	0	1	0	4
6	Professional Communication	AEC			0	0	2	0	2
Total Credits									**22**
2 Semester									
Sl No	**Course Name**	**Course T**	**Course L**	**Course C**	**L**	**T**	**P**	**S**	**C**
1	Measure and Integration Theory	Major		Theory	3	0	1	0	4
2	General Topology	Major		Theory	3	1	0	0	4
3	Mathematical Statistics	Major		Blended	3	0	1	0	4
4	Theory of Partial Differential Equations	Major		Theory	3	1	0	0	4
5	DSE	DSE-1		Theory					4
6	DSE	DSE-2		Theory					4
Total Credits									**24**
2 Year									
3 Semester									
Sl No	**Course Name**	**Course T**	**Course L**	**Course C**	**L**	**T**	**P**	**S**	**C**
1	Functional Analysis	Major		Theory	3	1	0	0	4
2	Mathematical Modeling & Simulation	Major		Theory	3	1	0	0	4
3	DSE	DSE-3		Theory					4
4	DSE	DSE-4		Theory					4
5	Research Methodology	University Core		Theory	2	0	0	0	2

6	Research Innovation & IPR	University Core		Theory	0	0	2	0	2
7	Dissertation (Phase-I)	Project		Project	0	0	0	2	2
Total Credits									**22**
4 Semester									
Sl No	**Course Name**	**Course T**	**Course L**	**Course C**					
					L	**T**	**P**	**S**	**C**
1	Dissertation (Phase-II)	Project		Project	0	0	12	0	12
Total Credits									12

Discipline Specific Electives									
Pure Mathematics Electives									
Sl No	**Course Name**	**Course Category**	**Course T**	**Course Level**					
					L	**T**	**P**	**S**	**C**
1	Advanced Fourier Analysis & wavelets	Theory	DSE-1		-	-	-	-	4
2	Commutative Algebra	Theory	DSE-1		-	-	-	-	4
3	Operational Research	Theory	DSE-1		-	-	-	-	4
4	Several Complex Variables	Theory	DSE-2		-	-	-	-	4
5	Representation Theory	Theory	DSE-2		-	-	-	-	4
6	Differential Geometry and Tensors	Theory	DSE-2		-	-	-	-	4
7	Operator Theory	Blended	DSE-3		-	-	-	-	4
8	Algebraic Coding Theory	Theory	DSE-3		-	-	-	-	4
9	Non-Linear Analysis	Theory	DSE-4		-	-	-	-	4
10	Number theory and Cryptography	Theory	DSE-4		-	-	-	-	4
Discipline Specific Electives									
Applied Mathematics Electives									
Sl No	**Course Name**	**Course Categor**	**Course T**	**Course Level**					
					L	**T**	**P**	**S**	**C**
1	Finite Element Method	Blended	DSE-1		-	-	-	-	4
2	Graph Theory	Theory	DSE-1		-	-	-	-	4
3	Operational Research	Theory	DSE-1		-	-	-	-	4
4	Biomathematics	Theory	DSE-2		-	-	-	-	4
5	Numerical linear Algebra	Theory	DSE-2		-	-	-	-	4
6	Fluid Mechanics	Theory	DSE-2		-	-	-	-	4
7	Stochastic Processes	Theory	DSE-3		-	-	-	-	4
8	Optimization Techniques	Theory	DSE-3		-	-	-	-	4
9	Computational Fluid Dynamics	Blended	DSE-4		-	-	-	-	4
10	Machine Learning	Blended	DSE-4		-	-	-	-	4