Master of Sciences

The department has been running a Master of Sciences program since the academic year 2013-14 with specialization in two streams, viz., “Mathematics” and “Mathematics and Computing”.

Objective:

The objective of the M.Sc Mathematics program is to provide students with a strong theoretical background in mathematics for pursuing research in both pure and applied mathematics.

The M.Sc Mathematics and Computing program aims to produce students with a good-firm background in theoretical and applied mathematics, supplemented with the required computational skills. Students have the flexibility to pursue higher studies or orient themselves towards a career in the industry.

Targeted Students:

B.Sc/B.Tech students with Mathematics for at least two years/four semesters.

Salient features of the M.Sc program:

- The first semester is common to both the streams.
- Freedom to choose between two streams: “Mathematics” or “Mathematics and Computing”.
- Streams based on the electives chosen in the 2nd-4th semesters.
- Sufficient emphasis on building a firm foundational knowledge
- Exposure to research through mandatory project work for all students
- Students are free to pursue interests in both streams

M.Sc Curriculum (Mathematics/ Mathematics and Computing) (2020 onwards)

Sem 1	**Code**	**Credits**
Analysis of Functions of Single Variables	MA4010	3
Linear Algebra	MA4020	3
Probability Theory	MA4040	3
Algebra I - Groups and Rings	MA4070	3
Combinatorics and Graph Theory	MA5010	3
English Communication Skills: Advanced	LA5180	1
	Total	**16**

Sem 2	**Code**	**Credits**
Ordinary Differential Equations	MA4030	3
Multivariable Calculus	MA4090	3
Measure and Integration	MA5030	3
Topology	MA5040	3
Basics of programming	MA4051	3
Elective - Algebra II / Applied Statistics		3
	Total	**18**

Sem 3	**Code**	**Credits**
Complex Analysis	MA4060	3
Partial Differential Equations	MA4080	3
Functional Analysis	MA5020	3
Numerical Analysis	MA5060	3
Project I	MA5315	3
Dept. Elective/Free Elective	FE****/MA****	3
	Total	**18**

Sem 4	Code	Credits
Departmental Electives	MA****	6
Project II	MA5415	3
Free Elective	FE****	3
Dept Elective/Project III	FE****/MA5425	3
	Total	**15**
	Total credits	**67**

M.Sc curriculum credits distribution:

Sem	Dept. Core	Dept. Elec	LA/CA	Project	Free Elective	Total credits
1	15	0	1	0	0	16
2	15	3	0	0	0	18
3	12	3*	0	3	3*	18
4	0	9	0	6**	3**	15
Total	42	15	1	6	6	**67**

- * In the 3rd semester, students can take either the Department Elective or the Free Elective worth 3 credits.
- ** In the 4th semester, students can either take Project III or a Free Elective worth 3 credits.
- In the 1st semester, 1 credit English communication skills is mandatory.

Credits distribution:

Dept. Core (14 courses of 3 credits each)	42
Dept. Electives (4 elective courses of 3 credits each)	12
LA	1
Dept. Projects I + II (3 credits each)	6
Free Elective/Dept Elective	3
Free Electives/Project III	3
TOTAL credits	**67**