



Curriculum of
M.Sc. in Statistics
with specialization in
Industrial Statistics/Biostatistics/Economic Statistics

(July 2026 onwards)

Department of Statistics
Faculty of Science
St. Xavier's University Kolkata

M.Sc. in Statistics with specialization in

1. **Industrial Statistics (IS)**
2. **Biostatistics (BS)**
3. **Economic Statistics (ES)**

Total Marks: 2000

Total Credit: 80

Semester wise details

Semester - I								
Number of Papers: 5								
Course Code	Course Title	Course Type	Credits in each course					Total Marks
			Theory	Practical	Tutorial	Internship /Project or Dissertation	Credits	
MSTR110T	Stochastic Processes	Core	4	0	0	0	4	100
MSTR120C	Applied Multivariate Analysis	Core	3	1	0	0	4	100
MSTR130C	Linear Models & Regression Analysis	Core	3	1	0	0	4	100
MSTR140C	Discrete Data Analysis	Core	3	1	0	0	4	100
MSTR150P	R & Python	Core	0	4	0	0	4	100
Total			13	7	0	0	20	500

Semester - II								
Number of Papers: 5								
Course Code	Course Title	Course Type	Credits in each course					Total Marks
			Theory	Practical	Tutorial	Internship /Project or Dissertation	Credits	
MSTR210T	Probability Theory	Core	4	0	0	0	4	100
MSTR220C	Statistical Inference	Core	3	1	0	0	4	100
MSTR230C	Bayesian Inference	Core	3	1	0	0	4	100
MSTR240C	Sample Survey and Design of Experiments	Core	3	1	0	0	4	100
MSTR250C	Resampling Techniques & Time Series Analysis	Core	3	1	0	0	4	100
Total			16	4	0	0	20	500

Semester - III								
Number of Papers: 5								
Course Code	Course Title	Course Type	Credits in each course					Total Marks
			Theory	Practical	Tutorial	Internship /Project or Dissertation	Credits	
MSTR310C	Statistical Learning	Core	3	1	0	0	4	100
MSTR320J	Introduction to Research and Dissertation	Project	0	0	0	4	4	100
Elective (Select any one of the following courses)								
MSTR331C	Optimization Techniques	Elective	3	1	0	0	4	100
MSTR341C	Advanced Statistical Inference	Elective	3	1	0	0	4	100
MSTR351C	Demography & Development Statistics	Elective	3	1	0	0	4	100
Select any one of the following specialization buckets								
Specialization Bucket: IS								
MSTR362C	Operations Research	Elective	3	1	0	0	4	100
MSTR373C	Reliability Analysis	Elective	3	1	0	0	4	100
Specialization Bucket: BS								
MSTR382C	Survival Analysis	Elective	3	1	0	0	4	100
MSTR393C	Clinical Trials	Elective	3	1	0	0	4	100
Specialization Bucket: ES								
MSTR3102C	Actuarial Statistics	Elective	3	1	0	0	4	100
MSTR3113C	Econometrics	Elective	3	1	0	0	4	100
Total			12	4	0	4	20	500

Semester - IV								
Number of Papers: 3								
Course Code	Course Title	Course Type	Credits in each course				Credits	Total Marks
			Theory	Practical	Tutorial	Internship /Project or Dissertation		
MSTR410J	Project based Internship	Internship	0	0	0	4	4	100
MSTR420J	Dissertation	Project	0	0	0	12	12	300
Students who chose IS/BS/ES bucket in sem. III, should choose a paper from the corresponding bucket								
Specialization Bucket: IS (Select any one of the following courses)								
MSTR434C	Statistical Quality Management	Elective	3	1	0	0	4	100
MSTR444C	Supply Chain Management	Elective	3	1	0	0	4	100
Specialization Bucket: BS (Select any one of the following courses)								
MSTR454C	Epidemiology	Elective	3	1	0	0	4	100
MSTR464C	Statistical Genetics	Elective	3	1	0	0	4	100
Specialization Bucket: ES (Select any one of the following courses)								
MSTR474C	Advanced Time Series	Elective	3	1	0	0	4	100
MSTR484C	Financial Econometrics	Elective	3	1	0	0	4	100
Total			3	1	0	16	20	500

Notes:

1. Elective courses and specialization modules shall be offered in accordance with university norms and the discretion of the department.
2. The marks distribution for the CIA and End Semester Examination shall be as per the university norms and the discretion of the Controller of Examinations.