Symbiosis Statistical Institute, Pune
Master of Science (Applied Statistics)
Programme Structure 2022-24

1.	**OBJECTIVE**	To Provide a sound foundation and exposure to statistical ideas.To steer students towards developing a keen interest in statistical thinking.To instill the rational that Statistics is important for scientific research which forms the basic grounds of decision making in every aspect of life.			
2.	**DURATION (IN MONTHS)**	24 (Full Time)			
3.	**INTAKE**	60			
4.	**RESERVATION**	**I.Within the sanctioned intake**	**a) SC (In Percentage)**	**b) ST (In Percentage)**	**c) Differently abled (In Percentage)**
			15	7.5	3
		II.Over and above the sanctioned intake	**a) Kashmiri Migrants (In Seats)**	**b) International Students (In Percentage)**	
			2	15	
5.	**ELIGIBILITY**	Graduate from any recognised University/ Institution of National Importance with minimum of 50% marks or equivalent grade (45% marks or equivalent grade for Scheduled Caste/ Scheduled Tribes) in 1. B.Sc. with Statistics as principal and Mathematics at subsidiary level 2. B.Sc. with Mathematics as principal and Statistics at subsidiary level 3. B.Sc. in Actuarial Science with Mathematics and Statistics at subsidiary level 4. B.Sc. with Statistics as one of the subjects 5. B.C.S. with Statistics as one of the subjects 6. B.C.A. with Statistics as one of the subjects 7. B.E. with Mathematics/Statistics at subsidiary level.			
6.	**SELECTION PROCEDURE**	Selection of students is based on: 1. Academic record with minimum 50 percent (45% for SC/ST) at graduation level 2. Performance at the "Writing Aptitude Test (Technical and Academic)" (WAT) and Personal Interaction (PI) which will be conducted in Kolkata, Noida and Pune. WAT is a written test that will be scheduled along with a comprehensive Personal Interaction (PI). 3. Technical and Academic Writing Test - Essay type written test on a general topic to comprehend the writing skills of the candidate. Personal Interaction - Interaction with a panel of experts			
7.	**MEDIUM OF INSTRUCTION**	English			
8.	**PROGRAMME PATTERN**	Semester			
9.	**COURSE & SPECIALIZATION**	As per Annexure A			
10.	**FEE**		**Academic Fee p.a**	**Institute Deposit**	**Total**

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		Indian Students	220000	20000	240000
		International Students (USD equivalent to INR)	330000	20000	350000
11.	**ASSESSMENT**	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 60% internal component and 40% external component [University] examination.			
12.	**STANDARD OF PASSING**	The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum of 10 CGPA for the programme.			
13.	**AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE**	Master of Science (Applied Statistics) will be awarded at the end of semester IV examination by taking into consideration the performance of all semester examinations after obtaining minimum CGPA of 4 out of maximum of 10 CGPA			

14. CLASSIFICATION OF CREDITS

Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	21	0	0	0	0	1*	21
2	23	0	0	0	0	0	23
3	15	3	6	0	0	0	24
4	12	0	0	0	0	0	12
Total	**71**	**3**	**6**	**0**	**0**	**0**	**80**

* Satisfactory completion of the non letter grade course 'Integrated Disaster Management' is mandatory for award of degree.

The revised programme structure supersedes the previously approved programme structure dated 02/07/2022 for the programme.

This Programme Structure is aligned with the norms laid down by the University and is approved by the Academic Council.
Hereafter changes (if any) which conform to the policy on "Curriculum Development and Review" would be permissible, subject to revision of the Programme Structure, following the specified processes.

Director - Academics

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Annexure A

Catalog Course Code	Course Code	Course Title	Specialization	Credit	Internal Marks	External Marks	Total Marks
Semester : 1							
Generic Core Courses							
T6684	0606410101	Probability Distributions		4	120	80	200
T6695	0606410102	Probability Theory and Applications		4	120	80	200
T6687	0606410103	Sampling Theory		4	120	80	200
T6688	0606410104	Statistical Computing		4	120	80	200
T6699	0606410105	Multivariate Statistics-1		3	90	60	150
T4725	0606410106	Research Methodology		2	60	40	100
T4005	0606410107	Integrated Disaster Management *		0	0	0	Non - Letter Grade
			Total	**21**	**630**	**420**	**1050**
Semester : 2							
Generic Core Courses							
T6697	0606410201	Statistical Inference		4	120	80	200
T6701	0606410202	Multivariate Statistical Analysis-2		4	120	80	200
T6696	0606410203	Linear Models		4	120	80	200
T6698	0606410204	Stochastic Processes		4	120	80	200
T6700	0606410205	Design of Experiments		4	120	80	200
T6725	0606410206	Time Series Analysis		3	90	60	150
			Total	**23**	**690**	**460**	**1150**
Semester : 3							
Generic Core Courses							
T6706	0606410301	Statistical Machine Learning		4	120	80	200
T6702	0606410302	Computer Intensive Statistical Methods		4	120	80	200
T6703	0606410303	Statistical Learning and Data Mining		4	120	80	200
T6903	0606410304	Internship		3	150	0	150
			Total	**15**	**510**	**240**	**750**
Generic Elective Courses Group							
T6704	0606410305	Optimization Techniques		3	150	0	150
T6918	0606410306	Bayesian Inference		3	150	0	150
			Total Required Credits	**3**	**150**	**0**	**150**
Specialization Core Courses : Bio-Statistics and Data Analysis							
T6724	0606410307	Survival Analysis	Bio-Statistics and Data Analysis	3	90	60	150

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Catalog Course Code	Course Code	Course Title	Specialization	Credit	Internal Marks	External Marks	Total Marks
T6707	0606410308	Demography and Vital Statistics	Bio-Statistics and Data Analysis	3	90	60	150
			Total	**6**	**180**	**120**	**300**
Specialization Core Courses : Data Science							
T6705	0606410309	Statistical Simulation	Data Science	3	90	60	150
T6849	0606410310	Big Data Analytics	Data Science	3	90	60	150
			Total	**6**	**180**	**120**	**300**
Specialization Core Courses : Industrial Statistics and Operations Research							
T6852	0606410311	Stochastic Models in Finance	Industrial Statistics and Operations Research	3	90	60	150
T6851	0606410312	Statistical Quality Control	Industrial Statistics and Operations Research	3	90	60	150
			Total	**6**	**180**	**120**	**300**
Semester : 4							
Generic Core Courses							
T6810	0606410401	Industry Project in Specialization		10	300	200	500
T6802	0606410402	Seminar		2	100	0	100
			Total	**12**	**400**	**200**	**600**

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Semester	Internal Credits	External Credits	Total Credits	Total Marks
Common				
Semester 1	0	21	21	1050
Semester 2	0	23	23	1150
Semester 3	6	18	24	1200
Semester 4	2	10	12	600
Total	**8**	**72**	**80**	**4000**