Symbiosis Statistical Institute, Pune
Master of Science (Applied Statistics)
Programme Structure 2019-21

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**	45			
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 statutory/recognized University with minimum of 50% marks (45% for SC/ST) in 1. B.Sc. (Second class) with Statistics as principal and Mathematics at subsidiary level 2. B.Sc. (Second class) with Mathematics as principal and Statistics at subsidiary level 3. B.Sc. (Second class) in Actuarial Science with Mathematics and Statistics at subsidiary level 4. B.Sc. (Second class), with Statistics as one of the subjects 5. B C S (Second class), with Statistics as one of the subjects 6. B C A (Second class), 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	193000	10000	203000
		International Students (USD equivalent to INR)	290000	10000	300000
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. NATURE WISE DISTRIBUTION OF CREDITS

Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	20	0	0	0	0	1*	20
2	23	0	0	0	0	0	23
3	20	0	3	0	0	0	23
4	14	0	0	0	0	1*	14
Total	**77**	**0**	**3**	**0**	**0**	**0**	**80**

* Satisfactory completion of the non letter- grade courses 'Integrated Disaster Management' and 'Research Publication' is mandatory for award of degree.

The revised programme structure supersedes the previously approved programme structure dated 27/04/2020 for the programme.

Programme Structure is approved by the Academic Council subject to its norms & conditions. Any provision in the Programme Structure which violates the basic rules & regulations is deemed to be termed "Null & Void".

Head-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	060641101	Probability Distributions		4	120	80	200
T6685	060641102	Linear Algebra		4	120	80	200
T6686	060641103	Mathematical Analysis		4	120	80	200
T6687	060641104	Sampling Theory		4	120	80	200
T6688	060641105	Statistical Computing		4	120	80	200
T4005	060641106	Integrated Disaster Management *		0	0	0	Non Letter Grade
			Total	**20**	**600**	**400**	**1000**
Semester : 2							
Generic Core Courses							
T6695	060641201	Probability Theory and Applications		4	120	80	200
T6696	060641202	Linear Models		4	120	80	200
T6697	060641203	Statistical Inference		4	120	80	200
T6698	060641204	Stochastic Processes		4	120	80	200
T6700	060641205	Design of Experiments		4	120	80	200
T6699	060641206	Multivariate Statistics-1		3	90	60	150
			Total	**23**	**690**	**460**	**1150**
Semester : 3							
Generic Core Courses							
T6717	060641301	Optimization Techniques		4	200	0	200
T6701	060641302	Multivariate Statistical Analysis-2		4	120	80	200
T6702	060641303	Computer Intensive Statistical Methods		4	120	80	200
T6703	060641304	Statistical Learning and Data Mining		4	120	80	200
T6904	060641305	Internship		4	200	0	200
			Total	**20**	**760**	**240**	**1000**
Specialization Core Courses : Bio-Statistics and Data Analysis							
T6724	060641306	Survival Analysis	Bio-Statistics and Data Analysis	3	90	60	150
			Total	**3**	**90**	**60**	**150**
Specialization Core Courses : Data Science							
T6705	060641307	Statistical Simulation	Data Science	3	90	60	150
			Total	**3**	**90**	**60**	**150**
Specialization Core Courses : Industrial Statistics and Operations Research							

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Annexure A

Catalog Course Code	Course Code	Course Title	Specialization	Credit	Internal Marks	External Marks	Total Marks
T6725	060641308	Time Series Analysis	Industrial Statistics and Operations Research	3	90	60	150
			Total	**3**	**90**	**60**	**150**
Semester : 4							
Generic Core Courses							
T6721	060641401	Big Data Analytics		4	200	0	200
T6706	060641402	Statistical Machine Learning		4	120	80	200
T6804	060641403	Industry Project In Specialization		4	200	0	200
T6708	060641404	Scientific and Report Writing		2	100	0	100
T0100	060641405	Research Publication *		0	0	0	Non Letter Grade
			Total	**14**	**620**	**80**	**700**

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Semester	Internal Credits	External Credits	Total Credits	Total Marks
Bio-Statistics and Data Analysis				
Semester1	0	20	20	1000
Semester2	0	23	23	1150
Semester3	8	15	23	1150
Semester4	10	4	14	700
Total	**18**	**62**	**80**	**4000**
Data Science				
Semester1	0	20	20	1000
Semester2	0	23	23	1150
Semester3	8	15	23	1150
Semester4	10	4	14	700
Total	**18**	**62**	**80**	**4000**
Industrial Statistics and Operations Research				
Semester1	0	20	20	1000
Semester2	0	23	23	1150
Semester3	8	15	23	1150
Semester4	10	4	14	700
Total	**18**	**62**	**80**	**4000**