

Symbiosis Statistical Institute, Pune
Bachelor of Science (Applied Statistics and Data Science) Honours/ Honours with Research
Programme Structure 2024-28

1.	OBJECTIVE	<p>-To provide scientific skills and intensive training in Statistics and Data Science to develop data analytics insight with hands-on training</p> <p>-To impart identified set of skills and values at each stage of learning at graduation and post- graduation level through integrated course</p> <p>-To empower candidates to apply relevant statistics and Data Science techniques to solve business and domain specific complex problems</p> <p>-To help developing holistic individuals and responsible citizens.</p>				
2.	DURATION (IN MONTHS)	48 (Full Time) With Multiple Entry and Multiple Exit Options				
3.	INTAKE	60				
4.	RESERVATION	I. Within the sanctioned intake	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)	d) Defense (In Percentage)
			15	7.5	3	0
		II. Over and above the sanctioned intake	a) Kashmiri Migrants (In Seats)		b) International Students (In Percentage)	
			2		20	
5.	ELIGIBILITY	Passed Standard XII (10+2) or equivalent examination from any recognised Board with a minimum of 50% marks or equivalent grade (45% Marks or equivalent grade for Scheduled Caste / Scheduled Tribes) with Mathematics as one of the subjects.				

		Students who wish to opt for Honours with Research must earn a 7.5 CGPA and above at the end of Semester-6. Eligibility Criteria for the Multiple entries would be as per University's Lateral Entry Rules for FYUG Programmes.				
6.	SELECTION PROCEDURE	1. Symbiosis Entrance Test (SET) 2. Personal Interaction and Written Ability Test (PI-WAT) for shortlisted candidates based on SET 3. The selection Procedure for the Multiple Entry would be as per the University's Lateral Entry Rules for FYUG Programmes.				
7.	MEDIUM OF INSTRUCTION	English				
8.	PROGRAMME PATTERN	Semester				
9.	COURSE & SPECIALIZATION	<p>As per Annexure A</p> <p>Offered Major: Applied Statistics and Data Science</p> <p>Offered Minor: Business Studies</p>				
10.	FEE		Academic Fee p.a	Institute Deposit	Total	
		Indian Students (Amount in INR)		2,36,500	20,000	2,56,500
		International Students	NRI/ PIO/ OCI Category (Amount in US\$)	4,625	275	4,900
			Foreign National Category (Amount in US\$)	1,300	275	1,575

		Note - The exiting students will have to complete the additional 4 credit vocational course for the award of a Certificate/ Diploma by paying additional fees at the time of intimation of the exit. The additional fees of 4 credit vocational course will be informed in due course of time.
11.	ASSESSMENT	The courses will have 60% Continuous Assessment and 40% Term End [University] examination however, some courses (not more than 30% of the total programme credits) may have 100% Continuous Assessment.
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 Continuous Assessment and Term End examinations separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% marks in any head of passing will be declared FAIL. The University awards a Certificate/Diploma/ Degree to the student who has achieved a minimum CGPA of 4 out of a maximum of 10 CGPA for the Programme.
13.	AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE	<p>Certificate in Applied Statistics and Data Science will be awarded at the end of the semester-2 by taking into consideration the performance of all semester examinations subject to obtaining a minimum 4.00 CGPA out of 10 CGPA and the successful completion of the 4 credit Vocational Course in the summer.</p> <p>Diploma in Applied Statistics and Data Science will be awarded at the end of the semester-4 by taking into consideration the performance of all semester examinations subject to obtaining a minimum 4.00 CGPA out of 10 CGPA and the successful completion of the 4 credit Vocational Course in the summer.</p> <p>Bachelor of Science (Applied Statistics and Data Science) with the Minor in Business Studies will be awarded at the end of the semester-6 by taking into consideration the performance of all semester examinations subject to obtaining a minimum of 4.00 CGPA out of 10 CGPA.</p> <p>Bachelor of Science (Applied Statistics and Data Science) Honours with the Minor in Business Studies will be awarded at the end of the semester-8 by taking into consideration the performance of all semester examinations subject to obtaining a minimum 4.00 CGPA out of 10 CGPA.</p> <p>Bachelor of Science (Applied Statistics and Data Science) Honours with Research with the Minor in Business Studies will be awarded at the end of the semester- 8 by taking into consideration the performance of all semester examinations subject to obtaining a minimum 4.00 CGPA out of 10 CGPA.</p>

14. CLASSIFICATION OF CREDITS AND NUMBER OF NON-CREDIT COURSES												
Semester	Major	Minor	Multi-disciplinary	Ability Enhancement	Skill Enhancement	Common Value Added	Summer Internship	Research Project / Dissertation	Total Credits	No. of Mandatory Non-Credit Course/s	No. of Non-Credit Audit Course/s	
1	10	4	0	2	4	2	0	0	22	0	As per the Student's Choice	
2	8	4	3	2	2	2	0	0	21	1		
3	4	4	3	2	3	2	0	0	18	1		
4	14	6	3	3	0	0	0	0	26	1		
5	12	4	0	0	0	0	4	0	20	1		
6	18	4	0	0	0	0	0	0	22	0		
Total	66	26	9	9	9	6	4	0	129			
Honours												
7	14	4	0	0	0	0	0	0	18	0		
8	16	4	0	0	0	0	0	0	20	0		
Total	96	34	9	9	9	6	4	0	167			
Honours with Research												
7	14	4	0	0	0	0	0	0	18	0		
8	4	4	0	0	0	0	0	12	20	0		
Total	84	34	9	9	9	6	4	12	167			
<p>1. The students exiting the Programme after Semester – 2 OR Semester - 4 should complete vocational courses of total 4 credits in the summer to obtain the Certificate/Diploma.</p> <p>2. Passing Mandatory Non-Credit Courses is a requirement for the award of the degree.</p>												

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

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
Semester - 1							
Major Course							
THM6034	0606220101	Introductory Probability and Statistics		6	90	60	150
THM6068	0606220102	Calculus for Data Science		4	60	40	100
Minor Course							
T2780	0606220103	Introduction to Contemporary Business Practices		4	60	40	100
Ability Enhancement Course							
T2495	0606220104	Business Communication		2	30	20	50
Skill Enhancement Courses							
T6983	0606220105	Statistical Data Analysis Using Microsoft Excel		4	100	0	100
Common Value-Added Course							
T6925	0606220106	Cultural and Heritage Education		2	50	0	50
Grand Total				22	390	160	550

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
Semester – 2							
Major Courses							
T6980	0606220201	Probability Distributions		4	60	40	100
THM6040	0606220202	Design and Analysis of Sample Survey		4	60	40	100
Minor Course (Choose any one course)							
TM2054	0606220203	Business Accounting		4	60	40	100
T2456	0606220204	Financial Management		4	60	40	100
Total Required Credits				4	60	40	100
Ability Enhancement Course (Choose any one course)							
THM6027	0606220205	Technical or Report Writing		2	50	0	50
THM6024	0606220206	Statistical Lyrics		2	50	0	50
Total Required Credits				2	50	0	50
Skill Enhancement Course (Choose any one course)							
THM6029	0606220207	Questionnaire Development		2	50	0	50
THM6026	0606220208	Data Acquisition Tools		2	50	0	50
Total Required Credits				2	50	0	50
Common Value-Added Course							
THM6025	0606220209	Shruti Ganit		2	50	0	50

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
Mandatory Non-Credit Course							
TH4788	0606220210	Health and Wellness Module I		0	0	0	0
Multidisciplinary Courses (Choose Any One Course from the University Basket of Multidisciplinary Courses given in Annexure B)							
-	-	MD1		3	75	0	75
Grand Total				21	405	120	525
Vocational Courses (Summer) (Only for students who wish to exit after the First Year with a Certificate)							
T3747	0606220211	R Programming for Statistics		4	100	0	100
Note: Students exiting at the end of the second semester and earning 43 credits will be awarded a "Certificate in Applied Statistics and Data Science" provided they successfully complete the additional 4 credits of vocational courses offered during the summer term.							
Semester – 3							
Major Course							
T6986	0606220301	Statistical Inference		4	60	40	100
Minor Course							
T2465	0606220302	Fundamentals of Marketing		4	60	40	100
Ability Enhancement Courses							
THM6069	0606220303	Basics of Indian Languages through Natural Language Processing		2	50	0	50
Skill Enhancement Courses							
THM6067	0606220304	Lilavati : Primer of		3	45	30	75

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
		Mathematics					
Common Value Added Courses							
THM6030	0606220305	Statistics in Sports		2	50	0	50
Mandatory Non-Credit Course							
TH4789	0606220306	Health and Wellness Module II		0	0	0	0
Multidisciplinary Courses (Choose Any One Course from the University Basket of Multidisciplinary Courses given in Annexure B)							
-	-	MD2		3	75	0	75
Grand Total				18	340	110	450
Semester - 4							
Major Courses							
THM6033	0606220401	Design of Experiments		6	90	60	150
T3745	0606220402	Introduction to Python		4	60	40	100
T6967	0606220403	Data Science I		4	60	40	100
Minor Courses							
T3680	0606220404	Digital Marketing		4	60	40	100
T8000	0606220405	Service Learning		2	50	0	50
Ability Enhancement Courses (Choose any one course)							
T2279	0606220406	Organizational Behaviour		3	45	30	75
T8732	0606220407	Design Thinking		3	45	30	75
Total Required Credits				3	45	30	75
Mandatory Non-Credit Course							

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
SMC001	0606220408	Vasudhaiva Kutumbakam		0	0	0	0
Multidisciplinary Courses (Choose Any One Course from the University Basket of Multidisciplinary Courses given in Annexure B)							
-	-	MD3		3	75	0	75
Grand Total				26	440	210	650
Vocational Courses (Summer) (Only for students who wish to exit after the Second Year with a Diploma)							
THM6028	0606220409	Tableau		4	100	0	100
Note: Students exiting at the end of the fourth semester and earning 87 credits will be awarded a "Diploma in Applied Statistics and Data Science," provided they successfully complete the additional 4 credits of vocational courses offered during the summer term.							
Semester - 5							
Major Courses							
THM6038	0606220501	Optimization Techniques		4	60	40	100
F0004	0606220502	Flexi-credit Course		4	100	0	100
T3780	0606220503	Advanced Data Science		4	60	40	100
Minor Course							
TM2135	0606220504	Retail Marketing		4	60	40	100
Summer Internship							
T6904	0606220505	Summer Internship		4	100	0	100
Mandatory Non-Credit Course							
SMC002	0606220506	Core		0	0	0	0

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
		Environmental Studies					
Grand Total				20	340/380	160/120	500
Semester – 6							
Major Courses							
T6975	0606220601	Hypothesis Testing		4	60	40	100
T3744	0606220602	R Programming		4	100	0	100
T3746	0606220603	Database Management System with SQL		2	50	0	50
THM6039	0606220604	Research Methodology		2	50	0	50
T6806	0606220605	Industry Project		6	150	0	150
Minor Course							
TM2145	0606220606	Supply chain Management		4	60	40	100
Grand Total				22	470	80	550
Note: Students exiting at the end of the sixth semester and earning 129 credits will be awarded a "Bachelor of Science (Applied Statistics and Data Science)" with a Minor in Business Studies degree. Total Credits at the end of the Third year (Major 66, Minor 26, Multidisciplinary 9, Ability Enhancement Courses 9, Skill Enhancement Courses 9, Summer Internship 4, Common Value-Added Courses 6).							
Semester – 7							
(Honours / Honours with Research)							
Major Courses							
THM6032	0606220701	Stochastic Process		6	90	60	150

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
THM6035	0606220702	Reliability and Survival Analysis		4	60	40	100
THM6031	0606220703	Bayesian Inference		4	60	40	100
Minor Course							
TM2208	0606220704	Financial Modeling		4	60	40	100
Grand Total				18	270	180	450
Semester – 8							
(Honours)							
Major Courses							
TEE7019	0606220801	Machine learning		6	90	60	150
THM6066	0606220802	Time Series		6	90	60	150
THM6041	0606220803	Demography		4	60	40	100
Minor Course							
T3779	0606220804	Health Care Analytics		4	60	40	100
Grand Total				20	300	200	500
(Honours with Research)							
Major Courses							
T7523	0606220805	Data Mining		4	60	40	100
Minor Course							
F0004	0606220806	Flexi-credit Course		4	100	0	100
Research Project							
T6812	0606220807	Research Project		12	180	120	300
Grand Total				20	340	160	500

Note:
Total Credits at the end of Fourth year for "Bachelor of Science (Applied Statistics and Data Science) – Honours" with

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
a Minor in Business Studies – 167 (Major 96, Minor 34, Multidisciplinary 9, Ability Enhancement Courses 9, Skill Enhancement Courses 9, Summer Internship 4, Common Value-Added Courses 6).							
Total Credits at the end of Fourth year for "Bachelor of Science (Applied Statistics and Data Science) - Honours with Research" and a Minor in Business Studies - 167 (Major 84, Minor 34, Multidisciplinary 9, Ability Enhancement Courses 9, Skill Enhancement Courses 9, Summer Internship 4, Research Project 12, Common Value-Added Courses 6).							

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SUMMARY

Semester	100% Continuous Assessment Credits	Term End (University) Examination Credits	Total Credits	Total Marks
1	6	16	22	550
2	9	12	21	525
3	7	11	18	450
4	5	21	26	650
5	8	12	20	500
6	14	8	22	550
Total	49	80	129	3225
Honours				
7	0	18	18	450
8	0	20	20	500
Total	49	118	167	4175
Honours with Research				
7	0	18	18	450
8	4	16	20	500
Total	53	114	167	4175


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Annexure B

List of Multidisciplinary Courses

S. No.	Catalogue Course Code	Course Code			Course Title	Credit
		Semester 2	Semester 3	Semester 4		
1	T1454	0606220212	0606220307	0606220410	Constitutional Law I	3
2	T2119	0606220213	0606220308	0606220411	Consumer Behaviour and Insights	3
3	TH4542	0606220214	0606220309	0606220412	Dancercise	3
4	T5787	0606220215	0606220310	0606220413	Digital Design Tools - Visual Media	3
5	TH4539	0606220216	0606220311	0606220414	Fitness and Sports	3
6	T2467	0606220217	0606220312	0606220415	Fundamentals of Brand Management	3
7	T3754	0606220218	0606220313	0606220416	Fundamentals of Cloud Computing	3
8	TE7456	0606220219	0606220314	0606220417	Fundamentals of Cyber Security	3
9	TM2055	0606220220	0606220315	0606220418	Fundamentals of Marketing Research	3
10	T4729	0606220221	0606220316	0606220419	Intellectual Property Rights	3
11	T1471	0606220222	0606220317	0606220420	Law of Contracts	3
12	T5953	0606220223	0606220318	0606220421	Public Relations and Corporate Communication	3
13	T2489	0606220224	0606220319	0606220422	Renewable Energy Sources	3
14	TH4540	0606220225	0606220320	0606220423	Self-Defence	3
15	TE7223	0606220226	0606220321	0606220424	Smart Urban Planning	3
16	T2701	0606220227	0606220322	0606220425	Social Entrepreneurship	3
17	T3741	0606220228	0606220323	0606220426	Web Development using CMS	3
18	TH4538	0606220229	0606220324	0606220427	Weight Training and Conditioning	3
19	TH4537	0606220230	0606220325	0606220428	Well for Life	3

20	TH4536	0606220231	0606220326	0606220429	Yoga and Stress Management	3
21	TH4363	0606220232	0606220327	0606220430	Cognitive Psychology	3
22	T6767	0606220233	0606220328	0606220431	Public Policy in India	3
23	T6769	0606220234	0606220329	0606220432	India's Foreign Policy	3
24	TH4569	0606220235	0606220330	0606220433	Brain Fit Body Fit	3
25	T2273	0606220236	0606220331	0606220434	Emotional Intelligence for Personal Growth	3
26	T2276	0606220237	0606220332	0606220435	Cross Cultural Management	3
27	T6002	0606220238	0606220333	0606220436	Communication Theories	3
28	T6008	0606220239	0606220334	0606220437	Communication for Creative Industry	3
29	T6023	0606220240	0606220335	0606220438	Film, Documentary & TV Appreciation	3
30	T6359	0606220241	0606220336	0606220439	Introduction to Culture and India	3
31	T6614	0606220242	0606220337	0606220440	Voice and Accent Neutralization	3
32	T6736	0606220243	0606220338	0606220441	Economic Journalism	3
33	T6756	0606220244	0606220339	0606220442	Economics	3
34	T6763	0606220245	0606220340	0606220443	Political Science I	3
35	T6768	0606220246	0606220341	0606220444	India's Political Economy and Development	3
36	T8461	0606220247	0606220342	0606220445	Introduction to User Experience Design	3
37	THM6015	0606220248	0606220343	0606220446	Principles of Economics	3
38	THM6017	0606220249	0606220344	0606220447	Macroeconomics for Business	3


 Director - Academics
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