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

1.	OBJECTIVE	-To provide scientific skills and intensive training in Statistics and Data Science to develop data analytics insight with hands-on training
		-To impart identified set of skills and values at each stage of learning at graduation and post- graduation level through integrated course
		-To empower candidates to apply relevant statistics and Data Science techniques to solve business and domain specific complex problems
		-To help developing holistic individuals and responsible citizens.
2.	DURATION (IN MONTHS)	48 (Full Time) With Multiple Entry and Multiple Exit Options
3.	INTAKE	60

4.	RESERVATION		a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)	d) Defense (In Percentage)
		I. Within the sanctioned intake	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**	As per Annexure A **Offered Major:** Applied Statistics and Data Science **Offered Minor:** Business Studies			
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**	**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. **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. **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. **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. **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 7.5 CGPA out of 10 CGPA.

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	
2	8	4	3	2	2	2	0	0	21	0	
3	4	4	3	2	3	2	0	0	18	2	
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	As per the Student's Choice
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		

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.
2. Passing Mandatory Non-Credit Courses is a requirement for the award of the degree.

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.

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Director - Academics

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

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
Multidisciplinary Courses							

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
Multidisciplinary Courses (Choose Any One Course from the University Basket of Multidisciplinary Courses) ==The list of Multidisciplinary courses offered will be updated every semester i.e., Semester: 2,3,4. The list will be shared on the MDC Registration Portal before the commencement of each semester, and students may choose a course of their choice.==							
-	-	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							
==TM2253==	0606220303	==Generative AI and use cases==		2	50	0	50
Skill Enhancement Courses							
THM6067	0606220304	Lilavati: Primer of Mathematics		3	45	30	75
Common Value-Added Courses							

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
THM6030	0606220305	Statistics in Sports		2	50	0	50
Mandatory Non-Credit Course							
TH4788	0606220306	Health and Wellness Module I		0	0	0	0
TH4789	0606220307	Health and Wellness Module II		0	0	0	0
Multidisciplinary Courses							
(Choose Any One Course from the University Basket of Multidisciplinary Courses)							
The list of Multidisciplinary courses offered will be updated every semester i.e., Semester: 2,3,4. The list will be shared on the MDC Registration Portal before the commencement of each semester, and students may choose a course of their choice.							
-	-	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

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
T8732	0606220407	Design Thinking		3	45	30	75
		Total Required Credits		**3**	**45**	**30**	**75**
		Mandatory Non-Credit Course					
SMC001	0606220408	Vasudhaiva Kutumbakam		0	0	0	0
		Multidisciplinary Courses **(Choose Any One Course from the University Basket of Multidisciplinary Courses)** **The list of Multidisciplinary courses offered will be updated every semester i.e., Semester: 2,3,4. The list will be shared on the MDC Registration Portal before the commencement of each semester, and students may choose a course of their choice.**					
-	-	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
THM6124	0606220502	Statistical Quality Control		4	100	0	100
T3780	0606220503	Advanced Data Science		4	60	40	100

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
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 Environmental Studies		0	0	0	0
			Grand Total	20	380	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).

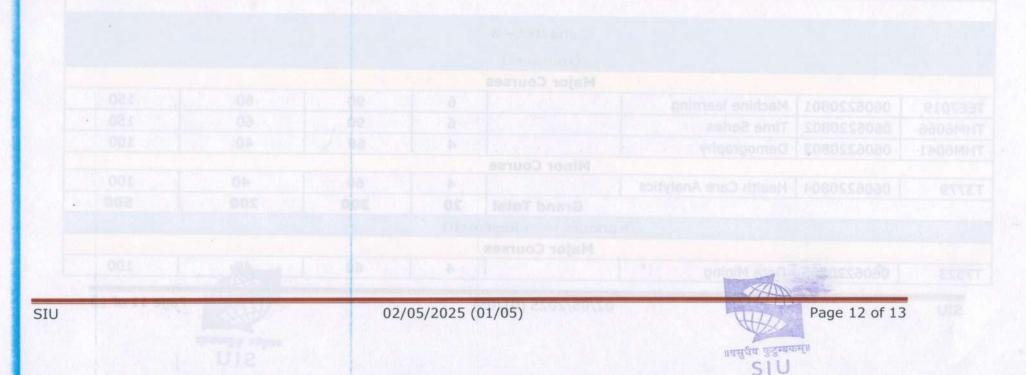| Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
8 center: **Semester – 7**
8 center: **(Honours / Honours with Research)**
8 center: **Major Courses**
THM6032	0606220701	Stochastic Process		6	90	60	150
THM6035	0606220702	Reliability and Survival Analysis		4	60	40	100
THM6031	0606220703	Bayesian Inference		4	60	40	100
8 center: **Minor Course**
TM2208	0606220704	Financial Modeling		4	60	40	100
			Grand Total	**18**	**270**	**180**	**450**
8 center: **Semester – 8**
8 center: **(Honours)**
8 center: **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
8 center: **Minor Course**
T3779	0606220804	Health Care Analytics		4	60	40	100
			Grand Total	**20**	**300**	**200**	**500**
8 center: **(Honours with Research)**
8 center: **Major Courses**
T7523	0606220805	Data Mining		4	60	40	100

Catalogue Course Code	Course Code	Course Title	Major / Minor	Credits	Continuous Assessment Marks	Term End Examination Marks	Total Marks
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 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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