Symbiosis Institute of Geoinformatics, Pune
Master of Science (Data Science & Spatial Analytics)
Programme Structure 2025-27

1.	**OBJECTIVE**	To create the professional human resource in the field of Data Science and analytics Technology; equipped with IT and information management skills to cater to the global industry requirements.				
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	25		
5.	**ELIGIBILITY**	Graduate in Engineering, IT, Science, Computer Science, Computer Application of any recognised university/ Institution of National Importance with 50% minimum of marks or equivalent grade (45% Marks or equivalent grade for Scheduled Caste/ Scheduled Tribes)				
6.	**SELECTION PROCEDURE**	Personal Interaction and Writing Ability Test				
7.	**MEDIUM OF INSTRUCTION**	English				
8.	**PROGRAMME PATTERN**	Semester				
9.	**COURSE & SPECIALISATION**	As per Annexure A. List of Specialisations Offered (Choose any one) 1. Artificial Intelligence Algorithms 2. Geointelligence				
10.	**FEE**		**Academic Fee p.a**	**Institute Deposit**	**Total**	
	Indian Students (Amount in INR)		300000	20000	320000	
	International Students	**NRI/ PIO/ OCI Category (Amount in US$)**	5600	275	5875	
		Foreign National Category (Amount in US$)	1950	275	2225	
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**	The assessment of the student for each examination is done, based on relative				

	PASSING	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**	Master of Science (Data Science and Spatial Analytics) with specialisation in Artificial Intelligence Algorithms / Geointelligence will be awarded at the end of semester 4 examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA.

14. CLASSIFICATION OF CREDITS

Semester	Generic Core	Generic Elective	Specialisa-tion Core	Specialisa-tion Elective	Open Elective	Mandatory Non-Credit Course/s	Non-Credit Audit Course/s	Total
Common								
1	21	0	0	0	0	0	As per the student's choice	21
2	12	0	11	0	0	0		23
3	14	3	7	0	0	2 *		24
4	12	0	0	0	0	0		12
Total	**59**	**3**	**18**	**0**	**0**	**0**		**80**

* Satisfactory completion of non credit courses 'Health and Wellness', 'Vasudhaiva Kutumbakam' is mandatory for award of degree.

Additional Note: #Health and Wellness Module I and Module II will be conducted during the semesters mentioned in the programme structure. However, the course will be listed on the students' grade sheets as "Health and Wellness" in the semester in which the institute's course code is officially assigned.

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	Specialisation	Credit	Continuous Assessment	Term End Examination	Total Marks
Semester : 1							
Generic Core Courses							
TE7444	0702430101	Mathematics for Spatial Sciences		4	120	80	200
TE7469	0702430102	Principles and Practices of Data Protection		3	90	60	150
TE7689	0702430103	Statistics and Probability		3	150	0	150
TE7931	0702430104	Python for Data Science		3	90	60	150
T2239	0702430105	Business Communication		2	100	0	100
T3244	0702430106	Introduction to Database Management System		2	60	40	100
TE7934	0702430107	Research Methodology in Computational Sciences		2	100	0	100
TEE7207	0702430108	Introduction to Geospatial Technology		2	60	40	100
TH4788		Health and Wellness Module I #		0	0	0	0
			Total	**21**	**770**	**280**	**1050**
Semester : 2							
Generic Core Courses							
T3447	0702430201	Machine learning		3	150	0	150
TEE7210	0702430202	SQL and Spatial Database management		3	90	60	150
F0002	0702430203	Flexi-Credit Course		2	100	0	100
TE7470	0702430204	Data Driven Governance		2	60	40	100
TEE7023	0702430205	Inferential Statistics		2	100	0	100
TH4789		Health and Wellness Module II #		0	0	0	0
			Total	**12**	**500**	**100**	**600**
Specialisation Core Courses : Artificial Intelligence Algorithms							
T3499	0702430206	Data Analysis Using Python	Artificial Intelligence Algorithms	3	90	60	150
T3560	0702430207	Computer Vision	Artificial Intelligence Algorithms	3	90	60	150
TE7930	0702430208	Programming for computational sciences	Artificial Intelligence Algorithms	3	90	60	150
TEE7208	0702430209	Big Data Analytical Techniques and Practical Applications	Artificial Intelligence Algorithms	2	60	40	100
			Total	**11**	**330**	**220**	**550**
Specialisation Core Courses : Geointelligence							

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Catalog Course Code	Course Code	Course Title	Specialisation	Credit	Continuous Assessment	Term End Examination	Total Marks
TE7440	0702430210	Advance Python Programming for Spatial Analytics	Geointelligence	3	90	60	150
TE7446	0702430211	Programming for Spatial Sciences	Geointelligence	3	90	60	150
TE7925	0702430212	Geospatial Analytics	Geointelligence	3	90	60	150
TEE7209	0702430213	Spatial Big Data and Storage Analytics	Geointelligence	2	60	40	100
			Total	**11**	**330**	**220**	**550**
Semester : 3							
Generic Core Courses							
T7804	0702430301	Summer Project		4	120	80	200
T3453	0702430302	Deep learning		3	90	60	150
T3509	0702430303	Artificial Intelligence		3	90	60	150
T7167	0702430304	Spatial Modeling		2	60	40	100
F0002	0702430305	Flexi-Credit Course		2	100	0	100
SMC001	0702430306	Vasudhaiva Kutumbakam *		0	0	0	Mandatory Non-Credit Course
SMC003	0702430307	Health and Wellness *		0	0	0	Mandatory Non-Credit Course
			Total	**14**	**460**	**240**	**700**
Generic Elective Course Group (Choose any one course)							
TE7473	0702430308	Data Driven Journalism		3	150	0	150
TE7443	0702430309	IOT Spatial Analytics		3	150	0	150
TE7448	0702430310	Spatial User Interface design and Implementation		3	150	0	150
T3136	0702430311	System Dynamics Simulation		3	150	0	150
TE7471	0702430312	Data Driven Banking, Insurance and Finance		3	150	0	150
TE7472	0702430313	Data Driven Forensics and Crime Investigation		3	150	0	150
			Total Required Credits	**3**	**150**	**0**	**150**
Specialisation Core Courses : Artificial Intelligence Algorithms							
TE7802	0702430314	Block Chain Technology	Artificial Intelligence Algorithms	3	90	60	150
T3655	0702430315	Introduction to Natural Language Processing	Artificial Intelligence Algorithms	2	60	40	100
T3683	0702430316	Operations Research and Optimization Techniques	Artificial Intelligence Algorithms	2	60	40	100

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Annexure A

Catalog Course Code	Course Code	Course Title	Specialisation	Credit	Continuous Assessment	Term End Examination	Total Marks
			Total	**7**	**210**	**140**	**350**
Specialisation Core Courses : Geointelligence							
TE7929	0702430317	Machine Learning for Remote sensing	Geointelligence	3	90	60	150
TE7151	0702430318	Web GIS	Geointelligence	2	60	40	100
TE7924	0702430319	Citizen Science and Geospatial Technology	Geointelligence	2	60	40	100
			Total	**7**	**210**	**140**	**350**
Semester : 4							
Generic Core Courses							
T7812	0702430401	Industry Project		12	360	240	600
			Total	**12**	**360**	**240**	**600**

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Semester	Continuous Assessment	Term End Examination	Total Credits	Total Marks
Artificial Intelligence Algorithms				
Semester 1	7	14	21	1050
Semester 2	7	16	23	1150
Semester 3	5	19	24	1200
Semester 4	0	12	12	600
Total	**19**	**61**	**80**	**4000**
Geointelligence				
Semester 1	7	14	21	1050
Semester 2	7	16	23	1150
Semester 3	5	19	24	1200
Semester 4	0	12	12	600
Total	**19**	**61**	**80**	**4000**