



Symbiosis Institute of Geoinformatics, Pune
Master of Science (Data Science & Spatial Analytics)
Programme Structure 2022-24

| | | | | | |
|-----|------------------------------------|---|--|--|---|
| 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 | 40 | | | |
| 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 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 & SPECIALIZATION | As per Annexure A | | | |
| 10. | FEE | | Academic Fee p.a | Institute Deposit | Total |
| | | Indian Students | 250000 | 20000 | 270000 |
| | | International Students (USD equivalent to INR) | 375000 | 20000 | 395000 |
| 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% component as external [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 (Data Science and Spatial Analytics) will be awarded at the end of semester IV 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 | Specialization Core | Specialization Elective | Open Elective | Audit | Total |
| 1 | 23 | 0 | 0 | 0 | 0 | 1* | 23 |
| 2 | 22 | 0 | 0 | 0 | 0 | 0 | 22 |
| 3 | 20 | 3 | 0 | 0 | 0 | 1* | 23 |
| 4 | 12 | 0 | 0 | 0 | 0 | 0 | 12 |
| Total | 77 | 3 | 0 | 0 | 0 | 0 | 80 |
| * Satisfactory completion of the non letter grade courses 'Integrated Disaster Management', 'Research Publication' is mandatory for award of 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.

Head - Academics

THIS IS SYSTEM GENERATED DOCUMENT AND REQUIRES NO SIGNATURE.



Symbiosis Institute of Geoinformatics, Pune
Master of Science (Data Science & Spatial Analytics)
Programme Structure 2022-24

Annexure A

| Catalog Course Code | Course Code | Course Title | Specialization | Credit | Internal Marks | External Marks | Total Marks |
|---------------------------------------|-------------|--|----------------|-----------|----------------|----------------|------------------|
| Semester : 1 | | | | | | | |
| Generic Core Courses | | | | | | | |
| TE7444 | 0702430101 | Mathematics for Spatial Sciences | | 4 | 120 | 80 | 200 |
| T7174 | 0702430102 | Applied Statistics | | 3 | 150 | 0 | 150 |
| TE7442 | 0702430103 | Introduction to Geospatial Technology | | 3 | 90 | 60 | 150 |
| T3111 | 0702430104 | Data Mining and Algorithms | | 3 | 90 | 60 | 150 |
| TE7469 | 0702430105 | Principles and Practices of Data Protection | | 3 | 90 | 60 | 150 |
| TE7475 | 0702430106 | Python for Geospatial Technology | | 3 | 90 | 60 | 150 |
| T2239 | 0702430107 | Business Communication | | 2 | 100 | 0 | 100 |
| T7370 | 0702430108 | Research Methodology in GIS | | 2 | 100 | 0 | 100 |
| T4005 | 0702430109 | Integrated Disaster Management * | | 0 | 0 | 0 | Non Letter Grade |
| Total | | | | 23 | 830 | 320 | 1150 |
| Semester : 2 | | | | | | | |
| Generic Core Courses | | | | | | | |
| TE7447 | 0702430201 | Spatial Big Data and Storage Analytics | | 4 | 120 | 80 | 200 |
| TE7446 | 0702430202 | Programming for Spatial Sciences | | 3 | 90 | 60 | 150 |
| T3447 | 0702430203 | Machine learning | | 3 | 150 | 0 | 150 |
| TE7440 | 0702430204 | Advance Python Programming for Spatial Analytics | | 3 | 90 | 60 | 150 |
| TE7441 | 0702430205 | Image Analytics | | 3 | 90 | 60 | 150 |
| T7674 | 0702430206 | Cyber Security | | 2 | 100 | 0 | 100 |
| T7049 | 0702430207 | Spatial Data Base Management | | 2 | 60 | 40 | 100 |
| TE7470 | 0702430208 | Data Driven Governance | | 2 | 60 | 40 | 100 |
| Total | | | | 22 | 760 | 340 | 1100 |
| Semester : 3 | | | | | | | |
| Generic Core Courses | | | | | | | |
| T7942 | 0702430301 | Spatial Modeling | | 4 | 120 | 80 | 200 |
| T7804 | 0702430302 | Summer Project | | 4 | 120 | 80 | 200 |
| T3441 | 0702430303 | Web Analytics | | 3 | 90 | 60 | 150 |
| T3509 | 0702430304 | Artificial Intelligence | | 3 | 90 | 60 | 150 |
| F0003 | 0702430305 | Flexi-Credit Course | | 3 | 150 | 0 | 150 |
| TE7445 | 0702430306 | Predictive Analytics and Development | | 3 | 90 | 60 | 150 |
| T0100 | 0702430307 | Research Publication * | | 0 | 0 | 0 | Non Letter Grade |
| Total | | | | 20 | 660 | 340 | 1000 |
| Generic Elective Courses Group | | | | | | | |
| T3453 | 0702430308 | Deep learning | | 3 | 150 | 0 | 150 |
| T3136 | 0702430309 | System Dynamics Simulation | | 3 | 150 | 0 | 150 |
| TE7443 | 0702430310 | IOT Spatial Analytics | | 3 | 150 | 0 | 150 |
| TE7448 | 0702430311 | Spatial User Interface design and Implementation | | 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 |
| TE7473 | 0702430314 | Data Driven Journalism | | 3 | 150 | 0 | 150 |
| TE7802 | 0702430315 | Block Chain Technology | | 3 | 90 | 60 | 150 |
| Total Required Credits | | | | 3 | 150 | 0 | 150 |
| Semester : 4 | | | | | | | |
| Generic Core Courses | | | | | | | |
| T7812 | 0702430401 | Industry Project | | 12 | 360 | 240 | 600 |
| Total | | | | 12 | 360 | 240 | 600 |



Celebrating 50 Years of Excellence

Symbiosis Institute of Geoinformatics, Pune
Master of Science (Data Science & Spatial Analytics)
Programme Structure 2022-24

| Semester | Internal Credits | External Credits | Total Credits | Total Marks |
|--------------|------------------|------------------|---------------|-------------|
| Semester 1 | 7 | 16 | 23 | 1150 |
| Semester 2 | 5 | 17 | 22 | 1100 |
| Semester 3 | 6 | 17 | 23 | 1150 |
| Semester 4 | 0 | 12 | 12 | 600 |
| Total | 18 | 62 | 80 | 4000 |