



**PERIYAR MANIAMMAI INSTITUTE OF
SCIENCE & TECHNOLOGY**

Periyar Nagar, Vallam, Thanjavur - 613403.
Tamil Nadu, India. www.pmu.edu.

**Faculty of Computing Science and Applications
DEPARTMENT OF INFORMATICS**

M.Sc. DATA SCIENCE

Curriculum - Regulations 2024 - Amendment 1

Category of courses and minimum credit requirement as per the new guidelines of UGC for M.Sc. Data Science programme are outlined below:

Sl. No.	Course Category	Credits
1.	Foundation Courses	04 - 08
2.	Programme Core Courses	40 - 48
3.	Programme Elective Courses	06 - 09
4.	Programme Elective Courses (Online)	03 - 06
5.	Employability Enhancement Courses (Internship / Field Visit / Professional Practices / Project / Research Methodology / Research / Thesis / Dissertation)	18 - 20
6.	Value Added / Value Addition Courses (IKS, Community Engagement, and IPR, Cybersecurity)	09
Total Credits		80 - 100

SEMESTER I

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory Courses						
1	P24DS101	Statistical Techniques for Data Science	3	1	0	4
2	P24DS102	Data Science Building Blocks	3	0	0	3
3	P24DS103	Algorithms and Analysis	3	0	0	3
4	P24DS104	Modern Database Systems	3	0	0	3
5	P24DS108	Data Engineering	3	0	0	3
6	P24DS9XX	Programme Elective - I	3	0	0	3
Practical Courses						
7	P24DS106	SQL and NoSQL Laboratory	0	0	2	1
Practical Integrated with Theory Courses						
8	P24DS107	Python and R Programming	2	0	2	3
Total			20	1	4	23

SEMESTER II

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory Courses						
1	P24DS151	Machine Learning Techniques	3	0	0	3
2	P24DS152	Business Intelligence and Data Exploration	3	0	0	3
3	P24DS153	Massive Data Analytics Tools	3	1	0	4
4	P24DS9XX	Programme Elective - II	3	0	0	3
5	P24RD001	Research Methodology	3	0	0	3
Practical Courses						
6	P24DS154	Machine Learning Techniques Laboratory	0	0	4	2
7	P24DS155	Business Intelligence and Data Exploration Laboratory	0	0	2	1
8	P24DS156	Massive Data Analytics Laboratory	0	0	4	2
Internship / Field Visit						
9	P24VA002	Community Engagement and Social Responsibility	1	0	2	2
Total			16	1	12	23

SEMESTER III

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory Courses						
1	P24DS201	Spatiotemporal Data Mining	3	1	0	4
2	P24DS202	Learning Analytics Tools and Techniques	3	0	0	3
3	P24DS203	Deep Learning Techniques	3	1	0	4
4	P24DS9XX	Programme Elective - III	3	0	0	3
5	P24VAXXX	Indian Knowledge Systems (Open Elective)	3	0	0	3
Practical Courses						
6	P24DS204	Spatiotemporal Data Mining Laboratory	0	0	4	2
7	P24DS205	Deep Learning Techniques Laboratory	0	0	4	2
Internship						
8	P24EM201	Internship	0	0	4	2
Total			15	2	12	23

SEMESTER IV

Sl. No.	Course Code	Course Name	Credits			
			L	T	P	C
Theory						
1	P24DS251	Large Language Models	3	1	0	4
2	P24DS8XX	Programme Elective (Online Course)	3	0	0	3
3	P24VA020	Cyber Security and Privacy	1	0	2	2
Project Work						
4	P24EM252	Project / Dissertation	0	0	24	12
Total			7	1	26	21

Semester wise Credit Distribution (In all Categories of Courses)

M.Sc. Data Science

Sl. No.	Course Category	Sem. I	Sem. II	Sem. III	Sem. IV	Total Credits
1.	Foundation Courses	04	-	-	-	04
2.	Programme Core Courses	12	16	15	04	47
3.	Programme Elective Courses	03	03	03	-	09
4.	Programme Elective Courses (Online)	-	-	-	03	03
5.	Employability Enhancement Courses (Internship / Field Visit / Professional Practices / Project / Research / Thesis / Dissertation)	04	-	02	12	18
6.	Value Added / Value Addition Courses (IKS, Community Engagement, Research Methodology and IPR, Cybersecurity)	-	04	03	02	09
Total Credits		23	23	23	21	90

Suggested List of Courses for Programme Electives

Sl. No.	Course Code	Course Name	Hours / Credits			
			L	T	P	C
1	P24DS901	Natural Language Processing	3	0	0	3
2	P24DS902	Web Technologies in Business Analytics	3	0	0	3
3	P24DS903	Design Thinking for Data Analysis	3	0	0	3
4	P24DS904	Modern Computer Vision	3	0	0	3
5	P24DS905	Full stack development	3	0	0	3
6	P24DS906	UI / UX Design	3	0	0	3
7	P24DS907	Domain Infused Data Analytics	3	0	0	3
8	P24DS908	Mobile Application Development	3	0	0	3
9	P24DS909	DevSecOps	3	0	0	3
10	P24DS910	Data Governance and Security	3	0	0	3

Suggested List of Open Elective Courses for Indian Knowledge Systems (IKS)

Sl. No.	Course Code	Course Name	Hours / Credits			
			L	T	P	C
1	P24VA005	பழந்தமிழ் இலக்கியத்தில் கணிதம் (Mathematics in Ancient Tamil Literature)	3	0	0	3
2	P24VA012	Immersive Technologies in Tamil Literature	3	0	0	3

Cyber Security Course (UGC Mandate)

Sl. No.	Course Code	Course Name	Hours / Credits			
			L	T	P	C
1	P24VA020	Cyber Security and Privacy	1	0	2	2