


SVKM'S NMIMS					
Nilkamal School of Mathematics, Applied Statistics & Analytics					
B.Sc. (Data Science)					
Program Structure (BATCH 2024-28)					
First Year (AY 2024-25)					
Semester I			Semester II		
Course No.	Course Title	Credits	Course No.	Course Title	Credits
1	Introduction to Computational Thinking & Data Science	3	1	Data Structures & Algorithms	3
2	Functional Programming	3	2	Data Analysis Using Python	3
3	Exploratory Data Analysis	3	3	Statistical Methods	3
4	Calculus & Differential Equations	3	4	Mathematics of Discrete Structures	3
5	Computational Thinking & Functional Programming Lab	2	5	Data Structures & Data Analysis using Python Lab	2
6	Exploratory Data Analysis Lab	1	6	Statistical Methods Lab	1
7	Calculus & Differential Equations Lab	1	7	Mathematics of Discrete Structures Lab	1
8	Introduction to R	2	8	Indian Culture & Civilization	2
9	Effective Communication	2	9	Professional Skills	2
10	Ecology & Environment	2	10	Global Environmental Management	2
<b>Total Credits</b>		<b>22</b>	<b>Total Credits</b>		<b>22</b>
Second Year (AY 2025-26)					
Semester III			Semester IV		
Course No.	Course Title	Credits	Course No.	Course Title	Credits
1	Statistical Techniques	3	1	Optimization Techniques	2
2	Linear Algebra	3	2	Multivariate Calculus	2
3	Statistical Techniques Lab	1	3	Numerical Analysis	2
4	Applied Linear Algebra Lab	1	4	Optimization Techniques Lab	1
5	Data Management	3	5	Multivariate Calculus & Numerical Analysis Lab	1
6	Building Blocks of Machine Learning	3	6	Data Visualization Principles & Applications	3
7	Data Management & Machine Learning Lab	2	7	UnSupervised Machine Learning Techniques	3
8	Introduction to Economics	2	8	Data Visualization & Unsupervised Machine Learning Lab	2
9	Research Methodology	2	9	Principles of Management	2
10	Art of Yoga	2	10	Research Discourse-I	2
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<b>Total Credits</b>		<b>22</b>	<b>Total Credits</b>		<b>22</b>

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Third Year (AY 2026-27)					
Semester V			Semester VI		
Course No.	Course Title	Credits	Course No.	Course Title	Credits
1	Supervised Machine Learning Techniques	4	1	Deep learning	4
2	Advanced Database Concepts	3	2	Time Series and Forecasting	3
3	DS Elective I - Cloud Computing Track (Building Blocks & Services)	3	3	DS Elective I - Cloud Computing Track (Concepts & Design of Web Services)	3
4	DS Elective II - Security Track (Network Security)		4	DS Elective II - Security Track (Block Chain Technology & Security)	
5	Open Elective I- Visual Analytics	3	5	Open Elective II- Machine Learning	3
6	Supervised ML, Advanced Database & DS Elective Lab	3	6	Deep Learning, Time-Series & Forecasting & DS Elective Lab	3
7	Fundamentals of Finance	2	7	Project Management	2
8	Research Discourse-II	2	8	Research Discourse-III	2
<b>Total Credits</b>		<b>20</b>	<b>Total Credits</b>		<b>20</b>
Fourth Year (AY 2027-28)					
Semester VII			Semester VIII		
Course No.	Course Title	Credits	Course No.	Course Title	Credits
1	Big Data Systems	4	1	DS Elective I - Cloud Computing Track (Machine Learning Operations (MLOps/DevOPs)	2
2	Natural Language Processing	3	2	DS Elective II - Security Track ( Crypto Forensics)	
3	DS Elective I - Cloud Computing Track (Cloud Computing Technologies )	3	3	Open Elective IV- Cloud Computing	2
4	DS Elective II - Security Track ( Cryptography & Cryptoanalysis )		4	Internship/Capstone Project	16
5	Open Elective III- Deep Learning Techniques	3		-----	-----
6	Big Data Analytics, Natural Language Processing Lab	2		-----	-----
7	Elective Lab	1		-----	-----
8	Econometrics	2		-----	-----
9	Research Discourse-IV	2		-----	-----
<b>Total Credits</b>		<b>20</b>	<b>Total Credits</b>		<b>20</b>

**Total Credits of the Program- 168**

**Total Subjects-70**

  
Dr.Sushil Kulkarni  
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