SVKM's NMIMS Deemed-to-be University
Mukesh Patel School of Technology Management and Engineering

Course Structure for B Tech Data Science Programme (Batch 2023-27)					
Year of the Programme: First Year (Academic Year 2023-27)					
Semester - I			**Semester - II**		
S. No.	**Course**	**Credits**	**S. No.**	**Course**	**Credits**
1	Calculus	4	1	Linear Algebra and Differential Equations	4
2	Physics	4	2	Quantum and Statistical Physics	3
3	Elements of Biology	3	3	English Communication	1
4	Programming for Problem Solving	4	4	Basic Electrical and Electronics Engineering	3
5	Engineering Graphics and Design	3	5	Digital Manufacturing Laboratory	1
6	Professional Ethics	1	6	Electrical and Electronics Workshop	1
7	Constitution of India	0	7	Principles of Economics and Management	3
8	Critical Thinking	0	8	Python For Data Analysis	2
			9	Environmental Science	2
			10	Design Thinking	0
	Total	**19**		**Total**	**20**
Year of the Programme: Second Year (Academic Year 2024-25)					
Semester - III			**Semester - IV**		
S. No.	**Course**	**Credits**	**S. No.**	**Course**	**Credits**
1	Optimization Methods	4	1	Stochastic processes and Applications	3
2	Data Structures and Algorithms	4	2	Statistical Structures in Data and Inference	4
3	Managing Uncertainty	4	3	Data handling and Visualization	2
4	Data Wrangling	3	4	Introduction to Data, Signal, and Image Analysis	4
5	Information Security and Privacy	2	5	Database Management Systems	3
6	Management Accounting for Engineers	2	6	Mobile Application Development	3
7	Technical Communication	1			
8	Community Service	0			
	Total	**20**		**Total**	**19**
Year of the Programme: Third Year (Academic Year 2025-26)					
Semester - V			**Semester - VI**		
S. No.	**Course**	**Credits**	**S. No.**	**Course**	**Credits**
1	Introduction to Modern Application Development	3	1	Computer Vision and Applications	3
2	Applied Artificial Intelligence	4	2	Applications of Machine Learning	3
3	Foundations of Machine Learning	4	3	Advance Data Structure for Analytics	3
4	Department Elective – I and II	3+3	4	Department Elective - III	3
	Predictive Analysis			*Quantitative Finance*	
	Simulation Modelling and Analysis			*Marketing Strategy and Analytics*	
	Internet of Things Analytics			*Non-parametric Statistical Inference*	
	Data Driven Program Analysis			*Supply chain and Analytics*	
	Applied Time Series Analysis		5	Open Elective III	3
	Virtualization and Cloud Computing		6	Open Elective IV	3
5	Open Elective I	3	7	Interpersonal Skills	1
6	Open Elective II	3			
	Total	**23**		**Total**	**19**

Year of the Programme: Fourth Year (Academic Year 2026-27)					
Semester - VII			**Semester - VIII**		
S. No.	**Course**	**Credits**	**S. No.**	**Course**	**Credits**
1	Neural Networks and Deep Learning	3	1	Project	10
2	Speech and Natural Language Processing	3			
3	Big Data Analytics	3			
4	MLOps	3			
5	Department Elective – IV and V	**3 + 3**			
	Advanced Database Management Systems				
	Advanced Computer Vision				
	DevOps				
	Metaverse				
	Reinforcement Learning				
	Quantum Machine Learning				
6	Open Elective V	3			
7	Capstone Project	4			
	Total	**25**		**Total**	**10**

Total Credits for the Programme   **155**