SCHOOL OF ENGINEERING AND SCIENCES

M.Tech in Data Science

2023-25 Batch

Semester Wise Course Credit Distribution Under Various Categories

Category	S1	S2	S3	S4	Total	%age
Value Added Courses (UG Common) (VAC)	02	-	-	-	02	2.5%
Skill Enhancement Courses (SEC)	2	2	-	-	04	5%
Multidisciplinary / Interdisciplinary / Foundation Core (FIC)	3	3	-	-	06	7.5%
Major Core (CC) + Specialization (SE) + Core Elective (CE)	18	18	-	-	36	45%
Research / Design / Industrial Practice / Project (RDIP)	-	-	17	15	32	40%
Grand Total			17	15	**80**	**100%**

VAC- Community Engagement & Social Responsibility
SEC-Problem Solving or Entrepreneurial mindset or Design Thinking
FIC- Mathematics or AIML or Project Management

M.Tech in Data Science

Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits
Semester-1						
VAC	University AEC	Community Engagement & Social Responsibility	-	-	1	01*
VAC	University AEC	Research Seminar	-	-	1	01*
SEC1	SEC	Design Thinking	1	-	1	02
CC	CORE	Computational Essentials for Data Science	3	0	1	4
CC	CORE	Big Data Analytics	3	0	1	4
CC	CORE	Advanced Algorithms and Analysis	3	0	1	4
CC	CORE	Machine Learning Techniques	3	0	1	4
CC	CORE	Advanced Python Programming Lab	0	0	2	2
Multidisciplinary	School (Engg./Sc.)	Advanced Probability, Linear Algebra and Optimization Techniques	-	2	1	3
Semester Total						**23**
Semester-2						
Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits
VAC	University AEC	Community Engagement & Social Responsibility	-	-	1	1
VAC	University AEC	Research Seminar	-	-	1	1
SEC2	SEC	Entrepreneurial mindset	1	-	1	2
CE	Core Elective	Industry - Core Elective	3	0	0	3
CE	Core Elective	Optimization Paradigms: Exploring Methods and Strategic Frameworks	3	0	0	3
CC	Core	Advanced Tools and Techniques for Big Data Analytics	3	0	1	4
CC	Core	Deep Learning: Methodologies and Techniques	3	0	1	4
CC	Core	Data Warehousing and Pattern Mining	3	0	1	4
Multidisciplinary	University (PSB)	Project Management	-	2	1	3
Semester Total						**25**

		Semester-3				
Category	**Sub-Category**	**Course Title**	**L**	**T/D**	**P/Pr**	**Credits**
RDIP	Research / Design / Industrial Practice / Project	Thesis (Project)	-	-	14	14
RDIP	Research / Design / Industrial Practice / Project	Industrial Practice			3	3
Semester Total						**17**
		Semester-4				
Category	**Sub-Category**	**Course Title**	**L**	**T/D**	**P/Pr**	**Credits**
RDIP	Internship / Research / Thesis	Thesis	-	-	15	15
Semester Total						**15**

List of Core Electives

1	Introduction to High Performance Computing
2	Statistical Modelling for Computer Sciences
3	Fuzzy Logic and its Applications
4	Information Retrieval
5	Pattern Recognition
6	Knowledge Engineering and Expert Systems
7	Time series analysis and forecasting
8	Complex Networks Analysis
9	Recommender Systems
10	Big Data Security and Privacy
11	Spatial Data Science and Visualization
12	Data Science for Healthcare
13	Business Intelligence and Data Analytics
14	Security in Cloud Computing and IoT
15	Digital Forensics and Incident Response
16	Block Chain Technology and Applications