JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE & SYLLABUS M. Tech CSE for DATA SCIENCE PROGRAMME
(Applicable for batches admitted from 2019-2020)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

I SEMESTER

S.No	Course Code	Courses	Category	L	T	P	C
1	MTDS1101	**Program Core-1** Data Predictive Analytics	PC	3	0	0	3
2	MTDS1102	**Program Core-2** Data Science Applications with Python	PC	3	0	0	3
3	MTDS1103	**Program Elective-1** 1. Advanced Graph Theory 2. Data Warehousing 3. Artificial Intelligence	PE	3	0	0	3
4	MTDS1104	**Program Elective-2** 1. Internet of Things 2. Social Network and Semantic Web 3. Big Data Analytics	PE	3	0	0	3
5	MTDS1105	**Research Methodology and IPR**	CC			0	2
6	MTDS1106	**Laboratory-1** Data Science Applications with Python Lab	LB	0	0	4	2
7	MTDS1107	**Laboartory-2** Advanced Computing with Python-1 Lab	LB	0	0	4	2
8	MTDS1108	**Audit Course-1***	AC	2	0	0	0
		Total Credits					18

Student has to choose any one audit course listed below.

II SEMESTER

S.No	Course Code	Courses	Category	L	T	P	C
1	MTDS1201	**Program Core-3** Advance Algorithms	PC	3	0	0	3
2	MTDS1202	**Program Core-4** Machine Learning Techniques	PC	3	0	0	3
3	MTDS1203	**Program Elective-3** 1. Natural Language Processing 2. High Performance Computing 3. Cloud Computing	PE	3	0	0	3
4	MTDS1204	**Program Elective-4** 1. Principles of Deep Learning 2. Image and Video Analytics 3. Principles of Data Security	PE	3	0	0	3
5	MTDS1205	**Laboratory-3** Advance Algorithms Lab	LB	0	0	4	2
6	MTDS1206	**Laboartory-4** Advanced Computing with Python-2 Lab	LB	0	0	4	2
7	MTDS1207	**Mini Project with Seminar**	MP	2	0	0	2
8	MTDS1208	**Audit Course-2***	AC	2	0	0	0
		Total Credits					18

Student has to choose any one audit course listed below.

Audit Course 1 & 2:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills

III SEMESTER

S.No	Course Code	Courses	Category	L	T	P	C
1	MTDS2101	**Program Elective-5** 1. Multivariate Analysis 2. Next Generation Databases 3. MOOCs-1 through NPTEL/SWAYAM 12 Week Program related to the programme which is not listed in the course structure	PE	3	0	0	3
2	MTDS2102	**Open Elective** 1. MOOCs-2 through NPTEL/SWAYAM - Any 12 week course on Engineering/ Management/ Mathematics offered by other than parent department 2. Course offered by other departments in the college	OE	3	0	0	3
3	MTDS2103	**Dissertation-I/Industrial Project**	PJ	0	0	20	10
		Total Credits					16

Students going for Industrial Project/Thesis will complete these courses through MOOCs

IV-SEMESTER

S.No	Course Code	Courses	Category	L	T	P	C
1	MTDS2201	**Dissertation-II**	PJ	0	0	32	16
		Total Credits					16

Open Electives offered by the Department of Computer Science and Engineering for other Departments students

1. Python Programming
2. Principles of Cyber Security
3. Internet of Things
4. Machine Learning
5. Deep Learning
6. Next Generation Databases