

**UNIVERSITY SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY
Department Of Computer Science & Engineering**

COURSE STRUCTURE

M. Tech.

Computer Science And Engineering

Specialization – Data Science

2022-2024



**GAUTAM BUDDHA UNIVERSITY
GAUTAM BUDH NAGAR, GREATER NOIDA
UP (INDIA)**

Semester 1

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS521	Advanced Data Base Management System	3	0	0	3	CC1
2	CS523	Design and Architecture for Software Systems	3	0	0	3	CC2 / FC
3	CS525	Advanced Data Structure and Algorithm	3	1	0	4	CC3
4	CS527	Research Techniques in ICT	3	0	0	3	CC4
5	CS529	Java Programming	3	0	0	3	CC5
6	ES415	Energy and Environment	3	0	0	3	OE1 / AECC
7	EN531	Language, Culture and Society	3	0	0	3	OE2 / AECC
8	CS581	Advanced Data Base Management System Lab	0	0	3	2	CC-L1
9	CS583	Java Programming Lab	0	0	3	2	CC-L2 / SEC
10	GP	General Proficiency	Non Credit				
Total Hours and Credits			21	1	6	26	

Semester 2

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CD522	Python Programming	3	0	0	3	CC6
2	CD524	AI Enabled Data Science	3	0	0	3	CC7
3	CD526	Optimization Techniques for Data Science	3	0	0	3	CC8
4	CD528	Advanced MS Excel	3	0	0	3	CC9
5		Elective-1	3	0	0	3	E1 / DSE
6		Elective-2	3	0	0	3	E2 / DSE
7		Generic Elective	3	1	0	4	GE1
8	CD582	Python Programming lab	0	0	3	2	CC-L3 / SEC
9	CD584	Advanced MS Excel lab	0	0	3	2	CC-L4
10	GP	General Proficiency	Non Credit				
Total Hours and Credits			21	1	6	26	

Semester 3

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CD621	Machine Learning Algorithms	3	0	0	3	CC10
2	CD623	Big Data Framework for Data Science	3	0	0	3	CC11
3		Elective-3	3	0	0	3	E3 / DSE
4		Elective-4	3	0	0	3	E4 / DSE
5	CD681	Big Data Framework for Data Science Lab	0	0	3	2	CC-L5
6	CA683	Summer Project	0	0	8	4	SP / E
7	CA691	Dissertation Part - I	0	0	16	8	DP1 / E
8	GP	General Proficiency	Non Credit				
Total Hours and Credits			12	0	27	26	

Semester 4

Sl No	Course Code	Course Name	L	T	P	Credits	Types
1	CA692	Dissertation Part - II	0	0	52	26	DP2 / E
2	GP	General Proficiency	Non-Credit				
Total Hours and Credits			0	0	52	26	

GRAND TOTAL OF CREDITS = 104

ELECTIVES FROM DCSE

SI No	Course Code	Course Name	L	T	P	Credits	Types
1	CD530	Modelling Process in Data Science	3	0	0	3	E1
2	CD532	Data Security	3	0	0	3	E1
3	CD534	Parallel and Distributed Computing	3	0	0	3	E1
4	CD536	Data Stream Management	3	0	0	3	E1
5	CD538	Predictive Analytics and Data Visualization	3	0	0	3	E2
6	CD540	Business Acumen and Intelligence	3	0	0	3	E2
7	CD542	Data Science for Business Analytics	3	0	0	3	E2
8	CD544	Advanced Semantics Web Technology	3	0	0	3	E2
9	CS625	Big Data Analytics	3	0	0	3	E3
10	CS627	Advanced Metrics for Economics			3	0	0
11	CS629	Multivariate Techniques for Data Science	3	0	0	3	E3
12	CS631	Blockchain Technology for Data Science	3	0	0	3	E3
13	CS633	Deep Learning in Biomedical and	3	0	0	3	E4
14	CS635	Data Analytics for Healthcare	3	0	0	3	E4
15	CS637	Regression for Time Series Analysis	3	0	0	3	E4
16	CS639	Internet of Things	3	0	0	3	E4

OPEN AND GENERIC ELECTIVES FROM OTHER SCHOOLS

SI No	Course Code	Course Name	L	T	P	Credits	Types
17	ES415	Energy and Environment	3	0	0	3	OE1
18	EN531	Language, Culture and Society	3	0	0	3	OE2
19	MA402	Modeling and Simulation	3	1	0	4	GE1
20	MA416	Probability and Stochastic Process	3	1	0	4	GE1

CD	Computer Science and Data Science for Course Code	FC	Foundation Course
CS	Computer Science for Course Code	DSC	Discipline Specific Course
CC	Core Course from USICT for Type of Course	SEC	Skill Enhancement Course
CC-L	Core Course Lab from USICT for Type of Course	E	Elective
GE	General Elective from related discipline of other Deptt./School	DP1	Dissertation Part 1
AECC	Ability Enhancement Compulsary Course	DP2	Dissertation Part 2
OE	Open Elective from other discipline of other Deptt./School	SP	Summer Project

