UNIVERSITY SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAMME STRUCTURE

M.TECH. COMPUTER SCIENCE AND ENGINEERING

SPECILIZATION : DATA SCIENCE

2021-2023

GAUTAM BUDDHA UNIVERSITY
GAUTAM BUDH NAGAR, GREATER NOIDA, UP, INDIA

SEMESTER I

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 II

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS522	Python Programming	3	0	0	3	CC6
2	CD522	AI Enabled Data Science	3	0	0	3	CC7
3	CD524	Optimization Techniques for Data Science	3	0	0	3	CC8
4	CD526	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	CS582	Python Programming Lab	0	0	3	2	CC-L3 / SEC
9	CD582	Advanced MS Excel Lab	0	0	3	2	CC-L4
10	GP	General Proficiency	Non Credit				
		Total Hours and Credits	21	1	6	26	

Summer Project in Industry will be done individually after Fourth Year of Integrated B.Tech. - M.Tech. CSE and Second Year of M.Tech. during the summer break and it will be of minimum 4 weeks. It will be evaluated as per University Examination Rules in III semester of M.Tech. and IX semester for Integrated B.Tech. - M.Tech. CSE .

SEMESTER III

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	CD683	Summer Project	0	0	8	4	SP / E
7	CD691	Dissertation Part - I	0	0	16	8	DP1 / E
8	GP	General Proficiency		Non Credit			
		Total Hours and Credits	**12**	**0**	**27**	**26**	DP2 / E

SEMESTER IV

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CD692	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**

Summer Project will be done individually and It will be evaluated as per University Examination Rules.

Dissertation will be done individually and It will be evaluated as per University Examination Rules.

USICT will provide a mentor/supervisor for summer project, and dissertation.

ELECTIVES FROM DCSE

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CD528	Modelling Process in Data Science	3	0	0	3	E1
2	CD530	Data Security	3	0	0	3	E1
3	CD532	Parallel and Distributed Computing	3	0	0	3	E1
4	CD534	Data Stream Management	3	0	0	3	E1
5	CD536	Predictive Analytics and Data Visualization	3	0	0	3	E2
6	CD538	Business Acumen and Intelligence	3	0	0	3	E2
7	CD540	Data Science for Business Analytics	3	0	0	3	E2
8	CD542	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	3	E3
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 Genomics	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

S.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