

**UNIVERSITY SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

PROGRAMME STRUCTURE

**M.TECH. COMPUTER SCIENCE AND ENGINEERING
SPECIALIZATION : ARTIFICIAL INTELLIGENCE AND ROBOTICS**

2024-2026



**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
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	CA520	Computer Vision	3	0	0	3	CC6
2	CA522	Nature Inspired Meta-Heuristics	3	0	0	3	CC7
3	CA524	Knowledge Engineering	3	0	0	3	CC8
4	CA526	Machine Translation and Learning	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	CA580	Computer Vision Lab	0	0	3	2	CC-L3 / SEC
9	CA582	Soft Computing 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 after Second semester 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	CA621	Expert System Design	3	0	0	3	CC10
2	CA623	Robotics	3	0	0	3	CC11
3		Elective-3	3	0	0	3	E3 / DSE
4		Elective-4	3	0	0	3	E4 / DSE
5	CA681	Robotics 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 IV

S.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

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	CA528	Natural Language Processing	3	0	0	3	E1
2	CA530	Speech Processing and Systems	3	0	0	3	E1
3	CA532	Pattern Matching	3	0	0	3	E1
4	CA534	Digital Transformation using AI	3	0	0	3	E1
5	CA536	Intelligent Information Retrieval	3	0	0	3	E2
6	CA538	Data Science Basics and Visualization	3	0	0	3	E2
7	CA540	Fuzzy Set Theory	3	0	0	3	E2
8	CA542	Advanced Computer Vision	3	0	0	3	E2
9	CA625	Deep Learning and Deep Neural Networks	3	0	0	3	E3
10	CA627	Predictive Analysis	3	0	0	3	E3
11	CA629	R Programming	3	0	0	3	E3
12	CA631	Robot Kinematics	3	0	0	3	E3
13	CA633	Embedded System and Design	3	0	0	3	E4
14	CA635	AI Enabled Cyber Security	3	0	0	3	E4
15	CA637	Human Machine Interaction	3	0	0	3	E4
16	CA639	Robotics Planning Algorithms	3	0	0	3	E4

OPEN AND GENERIC ELECTIVES FROM OTHER SCHOOLS

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

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