



GALGOTIAS UNIVERSITY



School of Computer Science and Engineering

Program

Bachelor of Technology in CSE (Data Science)

Curriculum

First Semester B. Tech. CSE (Data Science)							
S. No.	Course Code	Course Title	Credit Structure				Total Credits
			L	T	P	S	C
1	101	Engineering Mathematics-I	3	0	1	0	4
2	102	Basic Electrical & Electronics Engg.	3	0	1	0	4
3	103	Environmental Impact Analysis	0	0	1	0	1
4	104	Biology for Engineers / Nano Technology / Alternate Energy / Synthetic Chemistry / Bio-Materials and Implants/Chemical and Biological Materials	3	0	0	0	3
5	105	Programming for Problem Solving using C	3	0	1	0	4
6	106	Aptitude Skills	0	0	2	0	2
Second Semester B. Tech CSE (Data Science)							
1	201	Engineering Design and Prototyping	3	0	1	0	4
2	202	Introduction of Digital System	3	0	0	0	3
3	203	Modern Physics / Semiconductor Physics / Condensed matter Physics/Semiconductor and Opto Electro Devices	3	0	1	0	4
4	204	YOGA	0	0	0	0	0
5	205	Engineering Mathematics-II	3	0	1	0	4
6	206	Discrete Mathematics	3	0	0	0	3
7	207	OOPS Using C++	3	0	1	0	4
8	208	Applied Aptitude Skills	0	0	2	0	2
Third Semester B. Tech. (Data Science)							
1	301	Database Management System	3	0	1	0	4
2	302	Data Structures	3	0	1	0	4
3	303	Java Programming	3	0	1	0	4
4	304	Probability and Statistics	3	0	0	0	3
5	305	Computer Organization and Architecture	3	0	0	0	3
6	306	Advanced Aptitude Skills	0	0	2	0	2
7	307	Programming Skills with Computational Maths	0	0	2	0	2
8	308	Design Thinking	1	0	0	0	1
Fourth Semester B. Tech. (Data Science)							
1	401	Data Communication and Networking	3	0	1	0	4
2	402	Design and Analysis of Algorithm	3	0	1	0	4
3	403	Operating System	3	0	1	0	4
4	404	Theory of Computation	3	0	0	0	3
5	405	Aptitude Proficiency	0	0	2	0	2
6	406	Fundamentals of Cyber Security	3	0	0	0	3
7	407	Python Programing	0	0	2	0	2
8	408	Understanding Harmony and Ethical Human Conduct	1	0	0	0	1
9	409	Programming Skills with Data Structures	0	0	2	0	2
Fifth Semester B. Tech. (Data Science)							
1	501	Machine Learning	3	0	1	0	4
2	502	Software Engineering & Testing	3	0	1	0	4
3	503	Soft Skills & Aptitude Readiness	0	0	2	0	2
4	504	Technical and Coding Skills-III	0	0	2	0	2
5	505	Big Data Technologies	3	0	1	0	4
6	506	Summer Internship-I	0	0	0	1	1
7	507	Natural Language Processing	3	0	1	0	4
8	508	Open Elective-I	3	0	0	0	3

Sixth Semester B. Tech. (Data Science)								
1	601	Professional Readiness	0	0	2	0	2	
2	602	Technical and Coding Skills-IV	0	0	2	0	2	
3	603	Introduction to No-Code Tools and Platforms	3	0	1	0	4	
4	604	Generative AI and prompt Engineering	3	0	1	0	4	
5	605	Program Specific Elective-1	3	0	1	0	4	
6	606	Program Specific Elective-2	3	0	1	0	4	
7	607	Open Elective-2	3	0	0	0	3	
Seventh Semester B. Tech. (Data Science)								
1	701	Research Methodology & IPR	3	0	1	0	4	
2	702	Summer Internship II	0	0	0	1	1	
3	703	Capstone Project Phase I	0	0	0	4	4	
4	704	Program Specific Elective-Track Elective	3	0	1	0	4	
Eighth Semester B. Tech. (Data Science)								
1	801	Capstone Project Phase II	0	0	0	8	8	
2	802	Industrial Internship	0	0	0	2	2	

List of Electives

605	Program Specific Elective-1	Credit
1	MLOps	4
2	Computer Vision with ARVR	4
3	Optimization for Machine Learning	4
4	Soft Computing	4
606	Program Specific Elective-2	
1	Applied Predictive Analysis	4
2	Robotics and Automation	4
3	Optimization Techniques for Data Analytics	4
4	Deep Learning	4
704	Program Specific Elective-3	
1	Advance Visualization Techniques	4
2	MongoDB for Developers and Data Engineers	4
3	Web Analytics and SEO	4
4	Cloud Based Analytics	4

List of Open Electives

S.N.	Course Code	Open Elective-1 (Sem V)	L	T	P	S	Credits
1	508	Understanding India	3	0	0	0	3
2	508	Bio-Safety and Bio-Hazards	3	0	0	0	3
3	508	Introduction to Construction Technology	3	0	0	0	3
4	508	Photography	3	0	0	0	3
5	508	Health and Lifestyle Disorders	3	0	0	0	3
6	508	Space Science	3	0	0	0	3
7	508	Food, Nutrition and Health	3	0	0	0	3
8	508	NGOs and Sustainable Development	3	0	0	0	3

S.N.	Course Code	Open Elective-2 (Sem VI)	L	T	P	S	Credits
1	607	Entrepreneurship	3	0	0	0	3
2	607	Introductory Agriculture	3	0	0	0	3
3	607	Introduction to Business Economics	3	0	0	0	3
4	607	Mathematical Puzzles and Games	3	0	0	0	3
5	607	Microprocessor & Microcontroller	3	0	0	0	3
6	607	Digital marketing	3	0	0	0	3
7	607	Human Resource Management	3	0	0	0	3
8	607	Electric Vehicle Technology	3	0	0	0	3