



GALGOTIAS UNIVERSITY



School of Computer Science and Engineering

Program

**Bachelor of Technology in Artificial Intelligence and
Machine Learning**

Curriculum

First Semester B. Tech AIML							
S. No.	Course Code	Course Title	Credit Structure				Total Credits
			L	T	P	S	
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 AIML							
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 AIML							
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 AIML							
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 AIML							
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	Programming Skills with Algorithmic Design	0	0	2	0	2
5	505	Soft Computing	3	0	1	0	4
6	506	Summer Internship-I	0	0	0	1	1
7	507	Deep Learning and Neural Networks	3	0	1	0	4
8	508	Open Elective-1	3	0	0	0	3

Sixth Semester B. Tech AIML								
1	601	Professional Readiness	0	0	2	0	2	
2	602	Programming Skills with Advanced Data Structures	0	0	2	0	2	
3	603	Algorithms for Intelligent Systems	3	0	1	0	4	
4	604	Data Ethics and Explainable AI	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 AIML								
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-3	3	0	1	0	4	
Eighth Semester B. Tech AIML								
1	801	Capstone Project Phase II	0	0	0	8	8	
2	802	Industrial Internship	0	0	0	2	2	

List of Electives

S.N.	Course Code	Program Specific Elective-1 (Sem VI)	L	T	P	S	Credits
1	605	Federated Learning	3	0	1	0	4
2	605	Generative AI	3	0	1	0	4
3	605	Optimization for Machine Learning	3	0	1	0	4
4	605	Reinforcement Learning	3	0	1	0	4

S.N.	Course Code	Program Specific Elective-2 (Sem VI)	L	T	P	S	Credits
1	606	Adversarial Machine Learning	3	0	1	0	4
2	606	Privacy-Preserving Machine Learning	3	0	1	0	4
3	606	Fuzzy Systems an Evolutionary Computing	3	0	1	0	4
4	606	Intelligent and Expert Systems	3	0	1	0	4

S.N.	Course Code	Program Specific Elective-3 (Sem VII)	L	T	P	S	Credits
1	704	AIML for multi lingual applications/ Social Network Analysis and Sentiment Analysis	3	0	1	0	4
2	704	AIML for multimodal applications	3	0	1	0	4
3	704	AIML for Medical Image Processing / Medical Image Analysis	3	0	1	0	4
4	704	AIML for Pattern Recognition and Computer Vision	3	0	1	0	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