



**GALGOTIAS  
UNIVERSITY**



**School of School of Skill Sciences & Entrepreneurship**

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**Program**

**Bachelor of Technology in Artificial Intelligence**

# Curriculum

## First Semester B. Tech AI

S. No.	Course Code	Course Title	Credit Structure				Total Credits
			L	T	P	S	C
1	AIE101	Mathematics for AI	1	1	0	1	3
2	AIE102	Python Programming	1	0	1	1	3
3	AIE103	Data Structure and Algorithms	1	0	1	1	3
4	AIE104	Database Management Systems	1	0	1	1	3
5	AIE105	Fundamentals of Artificial Intelligence	1	0	1	1	3
6	AIE106	Project Based Learning - I	0	0	2	0	2
7	AIE107	Innovation and Design Thinking	0	0	1	1	2
8	AIE108	Environment and Sustainability	1	0	0	0	1

## Second Semester B. Tech AI

1	AIE201	Linear Algebra and Probability	1	1	0	1	3
2	AIE202	Systems for AI	1	0	1	1	3
3	AIE203	Data Analytics	1	0	1	1	3
4	AIE204	Web and API Development	1	0	1	1	3
5	AIE205	Machine Learning	1	0	1	1	3
6	AIE206	Project Based Learning - II	0	0	2	0	2
7	AIE207	Entrepreneurship Fundamentals	0	0	1	1	2
8	AIE208	Internship-I	0	0	0	4	4

## Third Semester B. Tech AI

1	AIE301	Computer Vision and Pattern Recognition	1	1	0	1	3
2	AIE302	Natural Language Processing	1	0	1	1	3
3	AIE303	IoT and Sensor Technology	1	0	1	1	3
4	AIE304	Cloud Computing	1	0	1	1	3
5	AIE305	Deep Learning	1	0	1	1	3
6	AIE306	Project Based Learning - III	0	0	2	0	2
7	AIE307	Professional Development-I	0	0	1	1	2
8	AIE308	Indian Knowledge Systems and AI	1	0	0	0	1

## Fourth Semester B. Tech AI

1	AIE401	Big Data Analytics	1	0	1	1	3
2	AIE402	Generative AI and LLMs	1	0	1	1	3
3	AIE403	Edge AI & Embedded Intelligence	1	0	1	1	3
4	AIE404	Computer Networks and Security	1	0	1	1	3
5	AIE405	AI Deployment and MLOps	1	0	1	1	3
6	AIE406	Project Based Learning - IV	0	0	2	0	2
7	AIE407	Professional Development-II	0	0	1	1	2
8	AIE408	Internship-II	0	0	0	4	4

## Fifth Semester B. Tech AI

1	AIE501	Introduction to Quantum Computing	1	0	1	1	3
2	AIE502	Agentic AI	1	0	1	1	3
3	AIE503	AI System Testing and Validation	1	0	1	1	3
4	AIE504	Program Specific Elective-I	1	0	1	1	3
5	AIE505	Open Elective-I	1	0	1	1	3
6	AIE506	Project Based Learning - V	0	0	1	1	2
7	AIE507	Startup Development and Venture Creation	0	0	2	0	2
8	AIE508	Service Learning	0	0	1	0	1

### Sixth Semester B. Tech AI

1	AIE601	Blockchain and Cryptography	1	0	1	1	3
2	AIE602	Reinforcement Learning	1	0	1	1	3
3	AIE603	AI Product Design	1	0	1	1	3
4	AIE604	Program Specific Elective-II	1	0	1	1	3
5	AIE605	Open Elective-II	1	0	1	1	3
6	AIE606	Project Based Learning - VI	0	0	1	1	2
7	AIE607	Documentation and Report Writing	0	0	2	0	2
8	AIE608	Internship-III	0	0	0	4	4

### Seventh Semester B. Tech AI

1	AIE701	Research Methodology & IPR	3	0	0	0	3
2	AIE702	Augmented & Virtual Reality	1	0	1	1	3
3	AIE703	AI Ethics and Governance	3	0	0	0	3
4	AIE704	Program Specific Elective-III	1	0	1	1	3
5	AIE705	Open Elective-III	1	0	1	1	3
6	AIE706	Capstone Project Phase-I	0	0	2	2	4
7	AIE707	Seminar	0	0	0	2	2

### Eighth Semester B. Tech AI

1	AIE801	Industry Internship	0	0	0	16	16
2	AIE802	Capstone Project Phase-II	0	0	2	2	4

### List of Program Specific Electives

S.N.	Course Code	Program Specific Elective-I (Sem V)	L	T	P	S	Credits
1	AIE504	Multimodal AI Systems	1	0	1	1	3
2	AIE504	Prompt Engineering	1	0	1	1	3
3	AIE504	Adversarial Machine Learning	1	0	1	1	3
4	AIE504	AI System Optimization & Scalability	1	0	1	1	3

S.N.	Course Code	Program Specific Elective-II (Sem VI)	L	T	P	S	Credits
1	AIE604	Explainable AI (XAI)	1	0	1	1	3
2	AIE604	Privacy-Preserving AI	1	0	1	1	3
3	AIE604	Distributed AI	1	0	1	1	3
4	AIE604	Data Warehousing & ETL Pipelines	1	0	1	1	3

S.N.	Course Code	Program Specific Elective-III (Sem VII)	L	T	P	S	Credits
1	AIE704	AI for Social Impact	1	0	1	1	3
2	AIE704	AI in Healthcare	1	0	1	1	3
3	AIE704	AI in Agriculture	1	0	1	1	3
4	AIE704	AI in Industry Applications	1	0	1	1	3

### List of Open Electives

S.N.	Course Code	Open Elective-I (Sem V)	L	T	P	S	Credits
1	AIE505	Digital Media and Marketing	1	0	1	1	3
2	AIE505	Financial Technology	1	0	1	1	3
3	AIE505	Logistics & Supply Chain Management	1	0	1	1	3
4	AIE505	Retail and E-Commerce	1	0	1	1	3

<b>S.N.</b>	<b>Course Code</b>	<b>Open Elective-II (Sem VI)</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>S</b>	<b>Credits</b>
<b>1</b>	AIE605	Business Intelligence	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>2</b>	AIE605	Cyber-Physical Systems	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>3</b>	AIE605	Smart Cities & Urban Analytics	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>4</b>	AIE605	High Performance Computing	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>

<b>S.N.</b>	<b>Course Code</b>	<b>Open Elective-III (Sem VII)</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>S</b>	<b>Credits</b>
<b>1</b>	AIE705	Robotics and Automation	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>2</b>	AIE705	Digital Twin Technology	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>3</b>	AIE705	Drone Technology	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>4</b>	AIE705	Smart and Sustainable Energy	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>