

AG NIAZI UNIVERSITY SARGODHA

Department of Computer Science & Artificial Intelligence

BS Artificial Intelligence (BSAI) — 4-Year Degree Program Outline

Program Structure Overview

Degree Duration: 4 Years (8 Semesters) | **Total Credit Hours:** 128 | **Degree Focus:** Machine Learning, Deep Learning, Generative AI & MLOps

Semester 1

#	Course Title	Credit Hours
1	Programming Fundamentals	3 + 1
2	Introduction to ICT	3
3	Calculus & Analytical Geometry	3
4	English Composition & Comprehension	3
5	Islamic Studies / Ethics	2
6	Pakistan Studies	2
Total Credit Hours		16

Semester 2

#	Course Title	Credit Hours
1	Object-Oriented Programming	3 + 1
2	Discrete Structures	3
3	Linear Algebra	3
4	Database Systems	3 + 1
5	Communication & Presentation Skills	3
Total Credit Hours		17

Semester 3		
#	Course Title	Credit Hours
1	Data Structures & Algorithms	3 + 1
2	Probability & Statistics	3
3	Computer Organization	3
4	Artificial Intelligence	3
5	Technical Writing	3
Total Credit Hours		16

Semester 4		
#	Course Title	Credit Hours
1	Machine Learning	3 + 1
2	Knowledge Representation & Reasoning	3
3	Operating Systems	3
4	Computer Networks	3
5	Web Technologies	3
Total Credit Hours		17

Semester 5		
#	Course Title	Credit Hours
1	Deep Learning	3 + 1
2	Natural Language Processing	3
3	Computer Vision	3 + 1
4	Data Mining	3
5	AI Elective-I	3
Total Credit Hours		19

Semester 6		
#	Course Title	Credit Hours
1	Neural Networks	3
2	Reinforcement Learning	3
3	Robotics	3
4	Big Data Analytics	3
5	AI Elective-II	3
Total Credit Hours		15

Semester 7		
#	Course Title	Credit Hours
1	Final Year Project-I	3
2	Generative AI	3
3	Cloud Computing for AI	3
4	AI Elective-III	3
5	Entrepreneurship	3
Total Credit Hours		15

Semester 8		
#	Course Title	Credit Hours
1	Final Year Project-II	3
2	AI Ethics & Responsible AI	3
3	MLOps & AI Deployment	3
4	AI Elective-IV	3
5	Professional Practices	3
Total Credit Hours		15