

Scheme of Studies BS Computer Science (Specialisation in Artificial Intelligence)

First Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
CT-175	Programming Fundamentals	3	1	4	CS-251	Logic Design & Switching Theory.	3	1	4
CT-174	Fundamentals of Information Technology	2	1	3	CT-162	Discrete Structures.	3	0	3
EA-104	Functional English	3	0	3	CT-260	Object Oriented Programming.	3	1	4
PH-122	Applied Physics.	3	1	4	MT-171	Differential & Integral Calculus	3	0	3
ES-205	Islamic Studies. OR	2	0	2	ES-105	Pakistan Studies. OR	2	0	2
ES-209	Ethical Behaviour.				ES-127	Pakistan Studies. (For Foreigners)			
MT-001	Mathematics-1 (Pre-Medical)	-	-	NC	MT-002	Mathematics-2 (Pre-Medical)	-	-	NC

Second Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
CT-159	Data Structure Algorithms & Applications.	3	1	4	CS-252	Computer Architecture & Organization.	3	1	4
MT-227	Differential Equations.	3	0	3	CT-261	Database Management Systems.	3	1	4
EA-115	Academic Reading and Writing	3	0	3	EA-218	Business Communication	2	1	3
EA-219	Professional Ethics	2	0	2	MT-272	Linear Algebra & Geometry.	3	0	3
CT-xxx	AI Elective - I	2	1	3	EC-209	Financial & Cost Accounting.	3	0	3
					EA-200	Community Service	-	-	NC

Third Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
CT-361	Artificial Intelligence & Expert Systems	3	1	4	CT-354	Machine Learning	3	1	4
CT-351	Knowledge Representation & Reasoning	3	0	3	CT-376	Computer Communication Networks	3	1	4
CT-353	Operating Systems	3	1	4	CS-428	Parallel & Distributed Computing	3	1	4
CT-xxx	AI Elective - II	3	0	3	CT-363	Design & Analysis of Algorithms	3	0	3
CT-365	Software Engineering	3	0	3	CT-xxx	GA Elective - III	3	0	3
					EA/ES-xxx	Foreign Language - I	-	-	NC

Final Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
CT-466	Artificial Neural Networks	3	0	3	CT-355	Information Security	3	0	3
CT-485	Natural Language Processing	3	0	3	CT-467	Image Processing & Computer Vision	3	1	4
CT-xxx	AI Elective - IV	3	0	3	MG-481	Entrepreneurship.	3	0	3
CT-499	Computer Science Project.	-	3	3	CT-xxx	AI Elective - V	3	0	3
MG-482	Organisational Behaviour	3	0	3	CT-499	Computer Science Project.	0	3	3
EA/ES-xxx	Foreign Language - II	-	-	NC					

Elective- I Courses	
CT-263	Object Oriented Analysis & Design
CT-264	Programming for Artificial Intelligence
CT-368	Fundamentals of Data Science
CT-266	Fundamentals of Cybersecurity
CT-267	Fundamentals of Game Development

Elective- V Courses	
CT-469	Reinforcement Learning
CT-410	Generative AI

Elective- II Courses	
CT-358	Fuzzy Systems
CT-359	Knowledge Based Systems

Foreign Language - I Courses	
EA-220	Chinese Language - I
EA-231	Turkish Language - I
EA-224	German Language - I
EA-226	French Language - I
ES-221	Arabic Language - I

Elective- III Courses	
CT-377	Data Mining
CT-357	Speech Processing

Foreign Language - II Courses	
EA-221	Chinese Language - II
EA-232	Turkish Language - II
EA-225	German Language - II
EA-227	French Language - II
ES-222	Arabic Language - II

Elective- IV Courses	
CT-468	Deep Learning
CT-470	Swarm Intelligence