Scheme of Studies BS Computer Science (Specialisation in Data Science)

First Year

Fall Semester					Spring Semester				
Course Code	Course Title	Th	Pr	Tota	Course Code	Course Title	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
MT-171	Differential & Integral Calculus	3	0	3	CT-260	Object Oriented Programming.	3	1	4
PH-122	Applied Physics.	3	1	4	HS-104	Functional English	3	0	3
HS-205	Islamic Studies. OR	2	0	2	HS-105	Pakistan Studies. OR	2	0	2
HS-209	Ethical Behaviour.				HS-127	Pakistan Studies. (For Foreigners)			
MT-001	Mathematics-1 (Pre-Medical)	-	-	NC	HSK-I	Chinese Language OR	-	-	NC
					HS-231	Turkish Language - I	-	-	NC
					MT-002	Mathematics-2 (Pre-Medical)	-	-	NC

Second Year

Fall Semester					Spring Semester				
Course Code	Course Title	Th	Pr	Total	Course Code	Course Title	Th	Pr	Total
CT-159	Data Structure Algorithms & Applications.	3	1	4	CS-252	Computer Architecture & Organization.	3	1	4
CT-259	System Analysis and Design.	3	0	3	CT-261	Database Management Systems.	3	1	4
MT-227	Differential Equations.	3	0	3	HS-218	Business Communication	2	1	3
HS-115	Academic Reading and Writing	3	0	3	MT-272	Linear Algebra & Geometry..	3	0	3
HS-219	Professional Ethics	2	0	2	EC-209	Financial & Cost Accounting.	3	0	3
HSK-II	Chinese Language. OR	-	-	NC	HS-200	Community Service	-	-	NC
HS-232	Turkish Language-II	-	-	NC					

Third Year

Fall Semester					Spring Semester				
Course Code	Course Title	Th	Pr	Total	Course Code	Course Title	Th	Pr	Total
CT-368	Fundamentals of Data Science	2	1	3	CT-356	Data Mining	3	1	4
MT-331	Probability & Statistics	3	0	3	CT-376	Computer Communication Networks.	3	1	4
CT-365	Software Engineering	3	0	3	CT-353	Operating Systems	3	1	4
CT-###	Data Science Elective I	3	0	3	CT-363	Design and Analysis of Algorithms	3	0	3
CT-361	Artificial Intelligence & Expert Systems	3	1	4	CT-###	Data Science Elective II	3	0	3

Final Year										
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
Fall Semester					Spring Semester				
MG-482	Organisational Behaviour.	3	0	3	CT-355	Information Security	3	0	3
CT-472	Data Warehousing & Business Intelligence	3	1	4	MG-481	Entrepreneurship.	3	0	3
CS-428	Parallel & Distributed Computing	3	1	4	CT-471	Data Analysis & Visualisation	3	1	4
CT-###	Data Science Elective-III	3	0	3	CT-##	Data Science Elective-IV.	3	0	3
CT-499	Software Based Project.	-	3	3	CT-499	Software Based Project.	0	3	3

Elective-I and Elective-II Courses	
CT-378	Machine Learning
CT-357	Speech Processing
CT-369	Business Process Analysis
CT-370	Platform & Architecture for Data Science

Elective-III & Elective-IV Courses	
CT-466	Artificial Neural Networks
CT-468	Deep Learning
CT-473	Cloud Computing
CT-474	Text Mining
CT-475	Privacy Preservation