

SCHEME OF STUDIES B.SC. (HONS.) DATA SCIENCE

w.e.f. WINTER SEMESTER 2024-2025

Course No.	Title of Course	Credit Hours	Type
FIRST SEMESTER			
SSH-303	IDEOLOGY AND CONSTITUTION OF PAKISTAN	2(2-0)	General Education
CS-305	APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES	3(2-1)	General Education
ECON-305	INTRODUCTION TO ECONOMICS	2(2-0)	General Education
PY-305	BASIC ELECTRONICS	3(2-1)	Allied
FA-310	INTRODUCTION TO ARTS AND HUMANITIES	2(2-0)	General Education
SOC-311	INTRODUCTION TO SOCIOLOGY	2(2-0)	General Education
ENG-313	FUNCTIONAL ENGLISH	3(3-0)	General Education
MATH-408	QUANTITATIVE REASONING - (I)	3(3-0)	General Education
TGM-301	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		20(18-2)	
SECOND SEMESTER			
CS-306	DIGITAL LOGIC DESIGN	3(2-1)	Major
CS-308	PROGRAMMING FUNDAMENTALS	3(2-1)	Major
ENG-314	EXPOSITORY WRITING	3(3-0)	General Education
IS-401 / SSH-306	ISLAMIC STUDIES / ETHICS	2(2-0)	General Education
MATH-404	LINEAR ALGEBRA	3(3-0)	Allied
STAT-408	QUANTITATIVE REASONING (II)	3(3-0)	General Education
TGM-302	TUTORIAL GROUP MEETING FOR SOFT SKILLS	NCC	Compulsory
Total Credit Hours		17(18-2)	
THIRD SEMESTER			
EDU-306	CIVICS AND COMMUNITY ENGAGEMENT	2(2-0)	General Education
SE-401	SOFTWARE ENGINEERING	3(2-1)	Major
IS-403	روحانیت	Non-Credit	Compulsory
CS-407	OPERATING SYSTEMS	3(2-1)	Major
MATH-407	MULTIVARIABLE CALCULAS	3(3-0)	Allied
CS-409	OBJECT ORIENTED PROGRAMMING	3(2-1)	Major
BBA-412	FINANCIAL MANAGEMENT-I	3(3-0)	Allied

TGM-401	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
	Total Credit Hours	17(14-3)	

FOURTH SEMESTER			
BMS-402	ENTREPRENEURSHIP	2(2-0)	Allied
IS-402	ترجمہ قرآن	NON-CREDIT	Compulsory
STAT-402	STATISTICS AND PROBABILITY	3(2-1)	Allied
CS-406	DATA COMMUNICATIONS AND NETWORKS	3(2-1)	Major
CS-408	DATABASE SYSTEMS	3(2-1)	Major
CS-410	DATA STRUCTURES AND ALGORITHMS	3(2-1)	Major
CS-414	INTRODUCTION TO DATA SCIENCE	3(2-1)	Major
CS-416	DATA MINING	3(2-1)	Major
TGM-402	TUTORIAL GROUP MEETING FOR SOFT SKILLS	NON-CREDIT	Compulsory
	Total Credit Hours	20(14-6)	
FIFTH SEMESTER			
CS-503	DESIGN AND ANALYSIS OF ALGORITHM	3(2-1)	Major
CS-505	MACHINE LEARNING	3(2-1)	Major
CS-507	COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE	3(2-1)	Major
IT-507	DATABASE ADMINISTRATION AND MANAGEMENT	3(2-1)	Major
CS-511	ARTIFICIAL INTELLIGENCE	3(2-1)	Major
STAT-513	ADVANCED STATISTICS	3(2-1)	Major
TGM-501	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
	Total Credit Hours	18(12-6)	
SIXTH SEMESTER			
CS-502	DATA ENCRYPTION AND SECURITY	3(2-1)	Major
CS-506	BIG DATA ANALYTICS	3(2-1)	Major
CS-510	ARTIFICIAL NEURAL NETWORKS AND DEEP LEARNING	3(2-1)	Major
CS-520	SPEECH PROCESSING	3(2-1)	Major
CS-522	DATA WAREHOUSING AND BUSINESS INTELLIGENCE	3(2-1)	Major
CS-524	TEXT MINING	3(2-1)	Major

TGM-502	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		18(12-6)	

SEVENTH SEMESTER			
CS-601	DATA VISUALIZATION	3(2-1)	Major
BINFO-607	SCIENTIFIC WRITING	3(0-3)	Major
CS-611	PARALLEL AND DISTRIBUTED COMPUTING	3(2-1)	Major
CS-617	PLATFORMS AND ARCHITECTURES FOR DATA SCIENCE	3(2-1)	Major
CS-619	BUSINESS PROCESS ANALYSIS	3(2-1)	Major
CS-621	FINAL YEAR PROJECT-I	2(0-2)	Major
TGM-601	TUTORIAL GROUP MEETING FOR SOFT SKILLS	Non-Credit	Compulsory
Total Credit Hours		17(8-9)	
EIGHTH SEMESTER			
CS-618	INTERNSHIP	2(0-2)	Major
CS-620	SEMINAR	1(1-0)	Major
CS-622	FINAL YEAR PROJECT-II	4(0-4)	Major
Total Credit Hours		7(1-6)	