

Tentative Schemes of Study for BSCS effective from Fall 2026

Semester – 0 (If any deficiency)					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
MTH-1013	Mathematics-I (If mathematics was not in Intermediate)	Deficiency	-	3	
MTH-1023	Mathematics-II (If mathematics was not in Intermediate)	Deficiency	-	3	
Total				6	

Semester - 1					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
CSC-1012	Application of Information & Communication Technologies	General Education	-	2	
CSC-1011	Application of Information & Communication Technologies - LAB	General Education	-	1	
PHY-1412	Natural Sciences (Applied Physics)	General Education	-	2	
PHY-1411	Natural Sciences (Applied Physics-Lab)	General Education	-	1	
MTH-1423	Quantitative Reasoning-I	General Education	-	3	
ENG-1213	Functional English	General Education	-	3	
MTH-1413	Calculus and Analytical Geometry	IDS - Mandatory	-	3	
CSC-1113	Programming Fundamentals	Major	-	3	
CSC-1111	Programming Fundamentals - LAB	Major	-	1	
Total				19	

Semester - 2					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
MTH-1433	Quantitative Reasoning-II	General Education	MTH-1423	3	
HUM-1322	Arts & Humanities	General Education	-	2	
SOC-1312	Social Sciences (Introduction to Sociology)	General Education	-	2	
ISL-1351	Fahm e Quran-I (For Muslim Students)	General Education	-	1	
MTH-1443	Linear Algebra	IDS - Mandatory	MTH-1413	3	
CSC-1123	Object Oriented Programming	Major	CSC-1113	3	
CSC-1121	Object Oriented Programming - LAB	Major	CSC-1111	1	
CSC-1023	Digital Logic Design	Major	PHY-1412	3	
CSC-1021	Digital Logic Design-Lab	Major	PHY-1411	1	
Total				19	

Semester - 3					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
ISL-2361	Fahm e Quran-II (For Muslim Students)	General Education	-	1	
ENG-2223	Expository Writing	General Education	ENG-1213	3	
Pak-2372	Pakistan Studies	General Education	-	2	
MTH-2453	Probability & Statistics	IDS	-	3	
CSC-2133	Data Structures	Major	CSC-1123	3	
CSC-2131	Data Structures - LAB	Major	CSC-1121	1	
CSC-2053	Software Engineering	Major	-	3	
CSC-2042	Computer Networks	Major	-	2	
CSC-2041	Computer Networks-Lab	Major	-	1	
Total				19	

Semester - 4					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
MGT-2332	Entrepreneurship	General Education	-	2	
ISL-2342	Islamic Studies/Ethics	General Education	-	2	
HUM-2382	Civics and Community Engagement	General Education	-	2	
HUM-2392	Ideology and Constitution of Pakistan	General Education	-	2	
CSC-2033	Database Systems	Major	-	3	
CSC-2031	Database Systems-Lab	Major	-	1	
CSC-2142	Computer Organization & Architecture	Major	CSC-1023	2	
CSC-2141	Computer Organization & Architecture-Lab	Major	CSC-1021	1	
CSC-2062	Information Security	Major	CSC-2042	2	
CSC-2061	Information Security-Lab	Major	CSC-2041	1	
Total				18	

Semester - 5					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
CSC-3153	Professional Practices	IDS	-	3	
CSC-3093	Design and Analysis of Algorithms	Major	CSC-2133	3	
CSC-3073	Artificial Intelligence	Major	-	3	
CSC-3083	Operating Systems	Major	-	3	
CSC-3081	Operating Systems-Lab	Major	-	1	
DME-3113	Elective-I	Elective	-	3	
Total				16	

Semester - 6					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
CSC-3163	Cloud Computing	Major	-	3	
DME-3123	Elective-II	Elective	-	3	
DME-3133	Elective-III	Elective	-	3	
DME-3143	Elective-IV	Elective	-	3	
CSC-3613	Internship (Preferably in summer)	Field Experience	-	3	
Total				15	

Semester - 7					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
CSC-4173	Theory of Automata	Major	-	3	
DME-4153	Elective-V	Elective	-	3	
DME-4163	Elective-VI	Elective	-	3	
CSC-4623	Professional Certification	Certification	-	3	
CSC-4713	Final Year Project - I	Capstone Project	-	3	
Total				15	

Semester - 8					
Code	Course Title	Category	Pre-req	Credit Hrs	PLOs
DME-4173	Elective-VII	Elective	-	3	
DME-4183	Elective-VIII	Elective	-	3	
CSC-4723	Final Year Project - II	Capstone Project	CSC-4713	3	
Total				9	

Specializations of the BS Computer Science Program:

After detailed consultation in the NCRC, the following specializations under BS Computer Science are recommended. HEIs may add more specializations as per the availability of faculty, infrastructure, and resources, keeping in view the framework after approval of their statutory bodies.

1. Core Computing
2. Software Engineering
3. Data Science
4. Artificial Intelligence
5. Cyber Security
6. Information Technology

7. Computer Engineering
8. Computer Game Development
9. Multimedia and Animation
10. Robotics
11. Human Computer Interaction
12. Internet of Things (IoT)
13. Network Infrastructure & Cloud Computing
14. Quantum Computing
15. Health Information