BS Computer Science

Proposed Scheme of Studies 2024

BS Computer Science degree will be awarded with 132 credit hours

YEAR –I

SEMESTER-I

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
GER-100	GEN	Introduction to Information and Communication Technology	3(2-3)	None
CMP-103	Core	Programming Fundamentals	4 (3-3)	None
GER-105	GEN	Functional English	3(3-0)	None
GER-103	GEN	Calculus and Analytical Geometry	3(3-0)	None
GER-104	GEN	Discrete Structures	3(3-0)	None
MT-100		Mathematics-1	3(3-0)	None
Total Credit Hours		16 (14-6)		

SEMESTER-II

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CMP-101	Core	Digital Logic Design	3(2-3)	
CMP-112	Core	Object Oriented Programming	4(3-3)	Programming Fundamentals
GER-102	GEN	Applied Physics	3 (2-3)	
GER-202	GEN	Ideology and Constitution of Pakistan	2 (2-0)	

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
GER-203	GEN	Islamic Studies	2 (2-0)	
GER-107	Math&Supporting	Probability & Statistics	3 (3-0)	
MT-101		Mathematics II	3(3-0)	
Total Cr Hrs			**17(14-9)**	

SEMESTER-III

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CMP-214	Core	Data Structures	4 (3-3)	Object Oriented Programming
CMP-206	Core	Information Security	3 (2-3)	
CMP-201	Core	Artificial Intelligence	3 (2-3)	
CMP-202	Core	Computer Networks	3 (2-3)	
MT-111	Math&Supporting	Linear Algebra	3(3-0)	Calculus an Analytical Geometry
GER-204	Gen	Pakistan Studies	2(2-0)	
Total Cr Hrs			**18 (14-12)**	

SEMESTER-IV

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CMP-213	Core	Computer Organization & Assembly Language	3 (2-3)	Digital Logic Design
CSC-201	Domain Core	Domain Core 1 (Theory of Automata)	3 (3-0)	

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
ITC-315	Domain Elective	Domain Elective 1 (Example: Web Technologies)	3 (2-3)	
MT-211	Math&Supporting	Multivariable Calculus	3(3-0)	Calculus an Analytical Geometry
CMP-205	Core	Database Systems	4(3-3)	
GER-211	GEN	Expository Writing	3 (3-0)	
Total Cr Hrs		**19 (16-9)**		

SEMESTER-V

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CMP-302	Core	Operating Systems	3 (2-3)	
CSC-304	Domain Core	Domain Core 2 (HCI & Computer Graphics)	3 (2-3)	
CSC-314	Domain Core	Domain Core 3 (Computer Architecture)	3 (2-3)	Computer Organization & Assembly Language
	Domain Elective	Domain Elective 2 Advanced Programming	3 (2-3)	
CMP-104	Core	Software Engineering	3(3-0)	
CMP-311	Core	Analysis of Algorithms	3 (3-0)	Data Structures
Total Cr Hrs		**18 (14-12)**		

SEMESTER-VI

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CSC-312	Domain Core	Domain Core 4 (Compiler Construction)	3 (2-3)	Theory of Automata
SS-301	ESC	Elective Supporting Course (Example: Financial Accounting)	3 (3-0)	

SCS-311	Domain Core	Domain Core 5 (Advance Database Management Systems)	3 (2-3)	Database Systems
CS-354	Domain Elective	Domain Elective 3 (Mobile Application Development 1)	3 (2-3)	
	Domain Elective	Domain Elective 4	3 (2-3)	
EW-411	Math&Supporting	Technical & Business Writing	3 (3-0)	
Total Cr Hrs		**18 (14-12)**		

SEMESTER-VII

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CMP-401	Core	Final Year Project - I	2 (0-6)	
	Domain Elective	Domain Elective 5	3 (2-3)	
	Domain Elective	Domain Elective 6	3 (2-3)	
CSC-411	Domain Core	Domain Core 6 (Parallel & Distributed Computing)	3 (2-3)	Operating Systems
GER-202	GEN	Social Science (Example: Introduction to Management)	2 (2-0)	
GER-402	GEN	Entrepreneurship	2 (2-0)	
		Total Cr Hrs	**15 (11-15)**	

SEMESTER-VIII

Course Code	Course Category	Course Title	Credit Hours	Pre-requisite
CMP-412	Core	Final Year Project - II	4 (0-12)	

	Domain Elective	Domain Elective 7	3 (2-3)	
GER-403	GEN	Arts & Humanities (Professional Practices)	2 (2-0)	
GER-401	GEN	Civics and Community Engagement	2 (2-0)	
		Total Cr Hrs	**11 (6-15)**	

Note:

- Domain Elective Subject are decided at the start of each semester as per the availability of subject relevant faculty. Teaching of Holy Quran is offered in each semester but does not count to credit hours.
- Subject of Pakistan studies 2(2-0) is added as per HEC Notification.
- Mathematics I and II are non-credited but its compulsory for students to pass these courses in first year.