

Mapping of BSCS Program on the Generic Structure

#	Sem #	Code	Pre-Reqs	Course Title	Dom	Cr-Hr
Computing Core (46/130) 14 Courses						
1	1			Programming Fundamentals	Core	4(3+3)
2	2		PF	Object-oriented Programming	Core	4(3+3)
3	2			Database System	Core	4(3+3)
4	2			Digital Logic Design	Core	3(2+3)
5	3		OOP	Data Structures	Core	4(3+3)
6	3			Information Security	Core	3(2+3)
7	3			Artificial Intelligence	Core	3(2+3)
8	3			Computer Networks	Core	3(2+3)
9	3			Software Engineering	Core	3(3+0)
10	4		DLD	Computer Organization & Assembly Language	Core	3(2+3)
11	5			Operating Systems	Core	3(2+3)
12	7		DS	Analysis & Algorithms	Core	3(3+0)
13	7			Final year project I	Core	2(0+6)
14	8		FYP1	Final year project II	Core	4(0+12)

Domain Core (18/130) 6 Courses						
1	4			Theory of Automata	DCore	3(3+0)
2	4		DB	Advance Database Management Systems	DCore	3(2+3)
3	5			HCI & Computer Graphics	DCore	3(2+3)
4	5		COAL	Computer Architecture	DCore	3(2+3)
5	6		TA	Compiler Construction	DCore	3(2+3)
6	6		OS	Parallel & Distributed computing	DCore	3(2+3)

Domain Elective (21/130) 7 Courses						
1	5			Web Technologies	DElective	3(2+3)
2	5			Mobile Application Development I	DElective	3(2+3)
3	6		OOP	Advance Programming (Old Name : Visual Programming)	DElective	3(2+3)
4	6			Numerical Analysis	DElective	3(2+3)
5	6		WT	Web Engineering	DElective	3(2+3)
6	6		IS	Syber Security	DElective	3(2+3)
7	7			Software Testing & Quality Assurance	DElective	3(2+3)
8				Mobile Application Development II	DElective	3(2+3)
9				Cloud Computing	DElective	3(2+3)
10				Computer Graphics	DElective	3(2+3)
11				Object Oriented Analysis & Design	DElective	3(2+3)

Mathematics & Supporting Courses (12/130) 4 Courses						
1	2		CAG	Multivariable calculus	Maths	3(3+0)
2	2		CAG	Linear Algebra	Maths	3(3+0)
3	3			Probability & Statistics	Maths	3(3+0)
4	7		ECC	Technical & Business Writing	EW	3(3+0)

Elective Supporting Courses (3/130) 1 Course						
1	7			Social Science: (Example: Introduction to Marketing)	ESupport	3(3+0)
2				Social Science: (Example: Financial Accounting)	ESupport	3(3+0)

General Education Requirement as per HEC UG Education policy (30/130) 12 Courses						
1				Application of Information & Communication Technologies	GER	3(2+3)
2				Functional English	GER	3(3+0)
3			ECC	Expository Writing	GER	3(3+0)
4				Quantitative Reasoning – 1 (Discrete Structure)	GER	3(3+0)
5				Quantitative Reasoning – 2 (Calculus & Analytic Geometry)	GER	3(3+0)
6				Islamic Studies	GER	2(2+0)
7				Ideology & Constitution of Pakistan	GER	2(2+0)
8				Social Sciences (Example: Introduction to Management)	GER	2(2+0)
9				Natural Sciences: Applied Physics	GER	3(2+3)
10				Arts & Humanities (Professional Practices)	GER	2(2+0)
11				Civics and Community Engagement	GER	2(2+0)
12				Entrepreneurship	GER	2(2+0)

Semester One

#	Code	Pre-Reqs	Course Title	Cr Hr	Domain
1.	CS-301		Programming Fundamentals	4 (3+1)	CC
2.	ICT-301		Application of Information & Communication Technologies	3 (2+1)	GE
3.	BE – 301		Applied Physics	3 (2+1)	GE
4.	ENG – 301		Functional English	3	GE
5.	IS/EB-301		Islamic Study / Ethics (Optional for Non-Muslim)	2	GE
6.	Math-301		Calculus & Analytical Geometry	3	GE

Semester Two

#	Code	Pre-Reqs	Course Title	Cr Hr	Domain
7.	CS – 302		Object-oriented Programming	4 (3+1)	CC
8.	CS -304		Database System	4 (3+1)	CC
9.	CS -306		Digital Logic & Design	3 (2+1)	CC
10.	Math-302		Multivariable Calculus	3	Math
11.	ENG-302		Expository Writing	3	GE
12.	PS-302		Ideology & Constitution of Pakistan	2	GE

Semester Three

Sr. #	Code	Pre-Reqs	Course Title	Cr Hr	Domain
13.	CS -401		Data Structure	4 (3+1)	CC
14.	CS -403		Computer Networks	3 (2+1)	CC
15.	CS -405		Software Engineering	3	CC
16.	Math-401		Linear Algebra	3	Math
17.	CS-407		Discrete Structure	3	GE
18.	CS-409		Entrepreneur	2	GE

Semester Four

Sr. #	Code	Pre-Reqs	Course Title	Cr Hr	Domain
19.	CS -402		Computer Organization & Assembly Language	3 (2+1)	CC
20.	CS -404		Theory of Automata	3	DC 1
21.	CS -406		Advance Database Management System	3 (2+1)	DC 2
22.	CS-408		Organizational Behaviour	2	GE
23.	CS-410		Art & Humanities (Professional Practices)	2	GE
24.	RS-402		Civics & Community Engagement	2	GE

Semester Five

Sr. #	Code	Pre-Reqs	Course Title	Cr Hr	Domain
25.	CS -501		Operating System	3 (2+1)	CC
26.	CS -503		Computer Architecture	3 (2+1)	DC
27.	CS -505		HCI & Computer Graphics	3 (2+1)	DC
28.	CS -507		Web Technologies	3 (2+1)	DE
29.	CS -509		Mobile App Development	3 (2+1)	DE
30.	STAT-501		Probability & Statistics	3	Math

Semester Six

Sr. #	Code	Pre-Reqs	Course Title	Cr Hr	Domain
31.	CS -502		Information Security	3 (2+1)	CC
32.	CS -504		Parallel & Distributing Computing	3 (2+1)	DC
33.	CS -506		Compiler Construction	3 (2+1)	DC
34.	CS -508		Advanced Programming (Old Name: Visual programming)	3 (2+1)	DE
35.	CS -510		Software Testing & Quality Assurance	3 (2+1)	DE
36.	CS -512		Web Engineering	3 (2+1)	DE

Semester Seven

Sr. #	Code	Pre-Reqs	Course Title	Cr Hr	Domain
37.	CS -601		Analysis of Algorithms	3	DE
38.	CS -603		Cloud Computing	3(2+1)	CC
39.	ENG-601		Technical & Business Writing	3	Math
40.	BE-601		GIS	3	ES
41.	CS -605		Project	6 (06)	CC

Semester Eight

Sr. #	Code	Pre-Reqs	Course Title	Cr Hr	Domain
42.	CS – 602		Artificial Intelligence	3 (2+1)	CC
43.	CS -604		Cyber Security	3 (2+1)	DE
44.	CS -606		Internship	3	

NCEAC Requirements	Credit Hours	Credit Hours	HEC Requirements
Computing Core:	46	85	Domain Core
Domain Elective:	21		
Domain Core	18		
Mathematics	12	12	Interdisciplinary
General Education	30	30	General Education
Elective Supporting	3	3	Elective Supporting
Capstone			
Internship	3	3	Internship
	133	133	

Semester	Credit Hours
Semester 1:	18
Semester 2:	19
Semester 3:	18
Semester 4:	15
Semester 5:	18
Semester 6:	18
Semester 7:	18
Semester 8:	9
Total Credit Hours	133

Credit Hours	133
Total Subjects	44