Bachelor of Science in Software Engineering (BSSE)

Areas	Credit Hours	Courses
Computing Core	46	14
Domain Core	18	6
Domain Elective	21	7
Mathematics & Supporting Courses	12	4
Elective Supporting Courses	3	1
General Education Requirement	30	12
Totals	**130**	**44**

Code	Pre-Reqs	Course Title	Cr hr
		Computing Core Courses	
CSC-101		Programming Fundamentals	4 (3-3)
CSC-102	CSC-101	Object Oriented Programming	4 (3-3)
CSC-103		Database Systems	4 (3-3)
CSC-111		Digital Logic Design	3 (2-3)
CSC-201	CSC-102	Data Structures	4 (3-3)
CSC-202		Information Security	3 (2-3)
CSC-203		Artificial Intelligence	3 (2-3)
CSC-204		Computer Networks	3 (2-3)
CSC-205		Software Engineering	3 (3-0)
CSC-211	CSC-111	Computer Organization & Assembly Language	3 (2-3)
CSC-301		Operating Systems	3 (2-3)
CSC-401	CSC-201	Analysis of Algorithms	3 (3-0)
CSC-498		Final Year Project – I	2 (0-6)
CSC-499	CSC-498	Final Year Project – II	4 (0-12)
		Domain Core Courses	
CSE-320		Software Design & Architecture	3 (3-0)
CSE-321		Software Construction & Development	3 (2-3)
CSE-322		Software Project Management	3 (2-3)
CSE-323		Software Quality Engineering	3 (2-3)
CSE-324		Software Requirement Engineering	3 (2-3)
CSC-314	CSC-301	Parallel & Distributed Computing	3 (2-3)
		Domain Elective Courses	
CSC-251		Web Technologies	3 (2-3)
CSC-252	CSC-102	Advanced Programming	3 (2-3)
CSC-302		Theory of Automata	3 (3-0)
CSC-313		HCI & Computer Graphics	3 (2-3)
CSC-353		Mobile Application Development 1	3 (2-3)
CSE-325		Object Oriented Analysis & Design	3 (2-3)
CSE-422		Software Testing & Quality Assurance	3 (2-3)
CSE-326		Software Re-Engineering	3 (2-3)
CSC-303	CSC-103	Advanced Database Management Systems	3 (2-3)
CSC-311	CSC-211	Computer Architecture	3 (2-3)
CSC-351	CSC-251	Web Engineering	3 (2-3)
		Mathematics & Supporting Courses	
MTH-102	MTH-101	Multivariable Calculus	3 (3-0)
MTH-103	MTH-101	Linear Algebra	3 (3-0)
STT-101		Probability & Statistics	3 (3-0)
ENG-401	ENG-201	Technical & Business Writing	3 (3-0)
		Elective Supporting Courses	
MGT-351		Social Science (Example: Introduction to Marketing)	3 (3-0)
MGT-322		Social Science (Example: Financial Accounting)	3 (3-0)
		General Education Courses	

Code		Course Title	Cr Hr
CSC-100		Application of Information & Communication Technologies	3 (2-3)
CSC-110		Discrete Structures	3 (3-0)
MTH-101		Calculus and Analytic Geometry	3 (3-0)
ENG-102		Functional English	3 (3-0)
ENG-201	ENG-102	Expository Writing	3 (3-0)
IS-201		Islamic Studies	2 (2-0)
PHY-201		Applied Physics	3 (2-3)
SSH-301		Introduction to Management	2 (2-0)
SSH-401		Entrepreneurship	2 (2-0)
SSH-402		Professional Practices	2 (2-0)
SSH-403		Civics and Community Engagement	2 (2-0)
SSH-404		Ideology and Constitution of Pakistan	2 (2-0)

#	Code	Pre-Reqs	Course Title	Cr Hr
			Semester 1	
1	CSC-100		Application of Information & Communication Technologies	3 (2-3)
2	CSC-101		Programming Fundamentals	4 (3-3)
3	CSC-110		Discrete Structures	3 (3-0)
4	MTH-101		Calculus and Analytic Geometry	3 (3-0)
5	ENG-102		Functional English	3 (3-0)
				16 (14-6)
			Semester 2	
6	CSC-102	CSC-101	Object Oriented Programming	4 (3-3)
7	CSC-103		Database Systems	4 (3-3)
8	CSC-111		Digital Logic Design	3 (2-3)
9	MTH-102	MTH-101	Multivariable Calculus	3 (3-0)
10	STT-101		Probability & Statistics	3 (3-0)
				17 (14-9)
			Semester 3	
11	CSC-201	CSC-102	Data Structures	4 (3-3)
12	CSC-202		Information Security	3 (2-3)
13	CSC-203		Artificial Intelligence	3 (2-3)
14	CSC-204		Computer Networks	3 (2-3)
15	CSC-205		Software Engineering	3 (3-0)
16	MTH-103	MTH-101	Linear Algebra	3 (3-0)
				19 (15-12)
			Semester 4	
17	CSC-211	CSC-111	Computer Organization & Assembly Language	3 (2-3)
18			Domain Elective 1	3 (2-3)
19			Domain Elective 2	3 (2-3)
20	PHY-201		Natural Science (Applied Physics)	3 (2-3)
21	ENG-201	ENG-102	Expository Writing	3 (3-0)
22	IS-201		Islamic Studies	2 (2-0)
				17 (13-12)
			Semester 5	
23	CSC-301		Operating Systems	3 (2-3)
24	CSE-320		Domain Core 1 (Software Design & Architecture)	3 (3-0)
25	CSE-321		Domain Core 2 (Software Construction & Development)	3 (2-3)
26			Domain Elective 3	3 (3-0)
27			Domain Elective 4	3 (2-3)
28	SSH-301		Social Science (Introduction to Management)	2 (2-0)
				17 (13-12)
			Semester 6	
29	CSE-322		Domain Core 3 (Software Project Management)	3 (2-3)
30	CSE-323		Domain Core 4 (Software Quality Engineering)	3 (2-3)
31	CSE-324		Domain Core 5 (Software Requirement Engineering)	3 (2-3)
32	CSC-314	CSC-301	Domain Core 6 (Parallel & Distributed Computing)	3 (2-3)

33			Domain Elective 5	3 (2-3)
34			Domain Elective 6	3 (2-3)
				18 (12-18)
			Semester 7	
35	CSC-498		Final Year Project – I	2 (0-6)
36	CSC-401	CSC-201	Analysis of Algorithms	3 (3-0)
37			Domain Elective 7	3 (2-3)
38	MGT-351		Elective Supporting Course (Introduction to Marketing)	3 (3-0)
39	ENG-401	ENG-201	Technical & Business Writing	3 (3-0)
40	SSH-401		Entrepreneurship	2 (2-0)
				16 (13-9)
			Semester 8	
41	CSC-499	CSC-498	Final Year Project – II	4 (0-12)
42	SSH-402		Arts & Humanities (Professional Practices)	2 (2-0)
43	SSH-403		Civics and Community Engagement	2 (2-0)
44	SSH-404		Ideology and Constitution of Pakistan	2 (2-0)
				10 (6-12)