



Merit, Quality & Excellence
SUKKUR INSTITUTE OF BUSINESS ADMINISTRATION
DEPARTMENT OF COMPUTER SCIENCE

Semester Wise Schema BS Computer Science

Semester I (Credit Hours: 15)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-101	Introduction to Information and Communication Technology (ICT)	4(3 + 1)	-NONE-
2	CSC-102	Introduction to Programming	4 (3 + 1)	-NONE-
3	ENG-101	Functional English	3 (3 + 0)	-NONE-
4	MTS-101	Pre - Calculus	Non - Credit	-NONE-
5	HUM-101	Islamic Studies/Ethics	2 (2 + 0)	-NONE-
6	HUM-102	Pakistan Studies	2 (2 + 0)	NONE-
Total Credit Hours			15	

Semester II (Credit Hours: 17)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-150	Object-Oriented Programming	4 (3 + 1)	CSC-102
2	MTS-150	Calculus and Analytic Geometry	3 (3 + 0)	MTS-101
3	ENG-150	Communication and Presentation Skills	3 (3 + 0)	-NONE-
4	CSC-151	Discrete Structures	3 (3 + 0)	-NONE-
5	ESE-150	Basic Electronics	4 (3 + 1)	-NONE-
Total Credit Hours			17	



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Semester III (Credit Hours: 17)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-201	Data Structures	4 (3 + 1)	CSC-102
2	ENG-201	Technical Writing	3 (3 + 0)	-NONE-
3	ESE-201	Digital Logic Design	4 (3 + 1)	ESE-150
4	MTS-201	Multivariate Calculus	3 (3 + 0)	MTS-150
5	CSC-202	Object Oriented Analysis and Design	3 (2 + 1)	CSC-150
Total Credit Hours			17	

Semester IV (Credit Hours: 18)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-252	Operating Systems	4 (3 + 1)	-NONE-
2	CSC-250	Computer Architecture & Assembly Language	4 (3 + 1)	ESE-201
3	MTS-250	Linear Algebra	3 (3+0)	NONE-
4	CSC-251	Database Systems	4 (3 + 1)	-NONE-
5	SWE-250	Software Engineering	3 (3 + 0)	-NONE-
Total Credit Hours			18	



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Semester V (Credit Hours: 16)

#	Code	Course Name	Credit Hours	Pre Requisite
1	xxx-xxx	UG – Elective - I	3 (3 + 0)	--
2	MTS-301	Differential Equations	3 (3 + 0)	MTS-150
3	CSC-302	Computer Communication and Networks	4 (3 + 1)	-NONE-
4	CSC-301	Analysis of Algorithms	3 (3 + 0)	CSC-102
5	CSC-304	Theory of Automata	3 (3 + 0)	CSC-102
Total Credit Hours			16	

Semester VI (Credit Hours: 19)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-350	Artificial Intelligence	3 (3 + 0)	-NONE-
2	CSC-352	Web Engineering	4 (3 + 1)	CSC-102
3	xxx-xxx	CS – Elective I	3 (3 + 0)	-NONE-
4	xxx-xxx	CS-Elective-II	3 (3 + 0)	-NONE-
5	xxx-xxx	UG – Elective - II	3 (3 + 1)	-NONE-
6	MTS-351	Probability and Statistics	3 (3 + 0)	--
Total Credit Hours			19	



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Semester VII (Credit Hours: 15)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-401	Human Computer Interaction	3 (3 + 0)	SWE-250
2	SWE-350	Software Project Management	3 (3 + 0)	SWE-250
3	xxx-xxx	CS-Elective-II	3 (3 + 0)	---
4	xxx-xxx	CS-Elective-III	3 (3 + 0)	--
5	FYP-401	Project-I	3 (0 + 3)	-NONE-
Total Credit Hours			15	

Semester VIII (Credit Hours: 15)

#	Code	Course Name	Credit Hours	Pre Requisite
1	CSC-451	Network Security	3 (3 + 0)	CSC-302
2	xxx-xxx	CS Elective-IV	3 (3 + 0)	---
3	xxx-xxx	CS-Elective-V	3 (3 + 0)	--
4	xxx-xxx	UG-Elective-III	3 (3 + 0)	--
5	FYP-451	Project-II	3 (0 + 3)	FYP-401
Total Credit Hours			15	



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Computer Science Elective Courses

Computer Science Elective Courses (Credit Hours: 21)		
#	Course Title	Credit Hours
1.	Web Engineering	4 (3 + 1)
2.	Computer Graphics and Animations	3 (2 + 1)
3.	Software Project and Quality Management	3 (3 + 0)
4.	Multimedia Technologies	3 (3 + 0)
5.	Grid Computing	3 (3 + 0)
6.	Broadband Communication Networks	3 (3 + 0)
7.	Error Correction and Coding Techniques	3 (3 + 0)
8.	Distributed Computing	3 (3 + 0)
9.	Mobile Application and Development	3 (2 + 1)
10.	Emerging Trends in Computing	3 (3 + 0)
11.	Independent Study	3 (3 + 0)
12.	Soft Computing	3 (3 + 0)
13.	Machine Learning with Market Illustration	3 (3 + 0)
14.	Scientific Computing	3 (3 + 0)
15.	Software Engineering	3 (3 + 0)
16.	Digital Image Processing	3 (3 + 0)
17.	Digital Signal Processing	3 (3 + 0)
18.	Computer Vision	3 (3 + 0)
19.	Data and Network Security	3 (3 + 0)



Computer Science Elective Courses

Computer Science Elective Courses (Credit Hours: 21)		
#	Course Title	Credit Hours
20.	Wireless Networks	3 (3 + 0)
21.	Social Computing	3 (3 + 0)
22.	Data Ware Housing	3 (3 + 0)
23.	Expert System	3 (3 + 0)
24.	Artificial Neural Network	3 (3 + 0)
25.	Fuzzy Logic	3 (3 + 0)
26.	Fundamental of Data Mining	3 (3 + 0)
27.	Computational Intelligence	3 (3 + 0)
28.	Multi Agent System	3 (3 + 0)
29.	Natural Language Processing	3 (3 + 0)
30.	Game Development	3 (3 + 0)
31.	Logical paradigms of computing	3 (3 + 0)
32.	Formal Methods for Software Engineering	3 (3 + 0)
33.	Visual Programming	3(2+1)
34.	Project Quality Management	3 (3 + 0)
35.	Software Verification and Validation	3 (3 + 0)
36.	Information Security	3 (3 + 0)

*Elective Subjects are subject to the availability of Faculty.



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General Elective Courses

General Elective Courses (Credit Hours: 15)		
#	Course Title	Credit Hours
1.	Principles of Management	3 (3 + 0)
2.	E-Business Management	3 (3 + 0)
3.	Entrepreneurship	3 (3 + 0)
4.	Professional Ethics	3 (3 + 0)
5.	Financial Accounting	3 (3 + 0)
6.	Methods of Business Research	3 (3 + 0)
7.	Management Information Systems	3 (3 + 0)
8.	Organizational Behavior	3 (3 + 0)
9.	Human Resource Management	3 (3 + 0)
10.	Financial Accounting	3 (3 + 0)
11.	Financial Management	3 (3 + 0)
12.	Human Resource Management	3 (3 + 0)
13.	Marketing	3 (3 + 0)
14.	Economics	3 (3 + 0)
15.	Psychology	3 (3 + 0)
16.	International Relations	3 (3 + 0)
17.	Foreign/Regional Language (French, German, Sindhi, Punjabi, Urdu etc.)	3 (3 + 0)
18.	Philosophy	3 (3 + 0)

*Elective Subjects are subject to the availability of Faculty.