Bachelor of Science in Information Technology
BSIT
Scheme of Studies
Fall 2015
(134 Cr. Hrs)

Approval of Scheme of Study of BS Information Technology (BSIT) 4 yrs degree program in the light of HEC National Curriculum Revision Committee (NCRC Computing) is given as under:

Approved scheme of studies of **BS IT** (134 Cr. Hrs) program is given as under:

i.   Information Technology- Computing Core Courses (44 Credit Hours)

#	Code	Course Title	Cr.Hrs.	Contact Hrs
1	CS102	Introduction to Computing	4 (3,1)	3+3 = 6
2	CS111	Programming Fundamentals	4 (3,1)	3+3 = 6
3	SE101	Object Oriented Programming	4 (3,1)	3+3 = 6
4	CS291	Discrete Structures	3 (3,0)	3+0 = 3
5	CS212	Data Structure and Algorithms	3 (2,1)	3+1.5 = 4.5
6	CS223	Digital Logic Design	3 (2,1)	3+1.5 = 4.5
7	CS224	Operating Systems	4 (3,1)	3+1.5 = 4.5
8	CS242	Introduction to Database Systems	4 (3,3)	3+3 = 6
9	SE203	Introduction to Software Development	3 (3,0)	3+0 = 3
10	CS372	Computer Communications and Networks	3 (2,1)	3+1.5 = 4.5
11	SE431	Human Computer Interaction	3 (3,0)	3+0 = 3
12	CS400	Senior Design Project	6 (0,6)	0+6 = 6

1 Credit hour of Lab =3 contact hours

ii.   Information Technology – Core Courses (18 Credit Hours)

#	Code	Course Title	Cr.Hrs.	Contact Hrs
1	IT 181	Fundamentals of Information Technology	3 (3-0)	3+0 = 3
2	IT 331	Web Systems and Technologies	3(2,1)	3+1.5 = 4.5
3	IT 361	Multimedia Systems and Design	3(2,1)	3+1.5 = 4.5
4	IT 371	Systems and Network Administration	3(3,0)	3+0 = 3
5	IT 471	Introduction to Network Security	3(3,0)	3+0 = 3
6	IT 421	System Integration and Architecture	3(3,0)	3+0 = 3

iii. Information Technology Elective Courses (21 Credit hours)

Tentative list of elective courses is given as follows:

#	Code	Course Title	Cr.Hrs.	Contact Hrs
1	IT 481	Technology Management	3(3,0)	3+0=3
2	IT 391	Organizational Behavior	3(3,0)	3+0=3
3	IT 341	Information Systems	3(3,0)	3+0=3
4	IT 372	Communication Systems Design	3 (3-0)	3+0=3
5	IT 373	Introduction to Information Security	3 (3-0)	3+0=3
6	IT 374	Communication Technologies	3 (3-0)	3+0=3
7	IT 332	Mobile Application Development	3 (3-0)	3+0=3
8	IT 333	Web Services	3 (3-0)	3+0=3
9	IT 451	Knowledge-Based Systems	3 (3-0)	3+0=3
10	IT 441	Introduction to Data Warehousing	3 (3-0)	3+0=3
11	IT 442	Information Retrieval	3 (3-0)	3+0=3
12	MG 491	Information System Audit	3(3,0)	3+0 = 3
13	SE 359	Introduction to Software Metrics	3(3,0)	3+0 = 3
14	SE 361	Software Engineering Economics	3(3,0)	3+0 = 3
15	SE 452	Business Process Automation	3(3,0)	3+0 = 3
16	SE 432	Design Patterns	3(3,0)	3+0 = 3
17	SE 471	Software Testing	3(2,1)	3+1.5 = 4.5
18	SE 359	Personal Software Process (PSP) and Team Software Process (TSP)	3(3,0)	3+0 = 3
19	SE 343	Enterprise System Development	3(3,0)	3+0 = 3
20	CS 426	Real-Time Systems	3(3,0)	3+0 = 3
21	CS 446	Introduction to Data Mining	3(3,0)	3+0 = 3
22	CS 431	Principles of Programming Languages	3(3,0)	3+0 = 3
23	CS 361	Computer Graphics	3(2,1)	3+1.5 = 4.5
24	SE 241	Advanced Computer Programming	3(2,1)	3+1.5 = 4.5
25	BI 391	Introduction to Bio-Informatics	3(3,0)	3+0 = 3
26	SE321	Object Oriented analysis and Design	3(3,0)	3+0 = 3
27	CS322	Computer Organization and Assembly Language	3(2,1)	3+1.5 = 4.5
28	CS314	Theory of Automata & Formal Languages	3(3,0)	3+0 = 3
29	CS213	Design and Analysis of Algorithms	3(3,0)	3+0 = 3
30	CS451	Artificial Intelligence	3(2,1)	3+1.5 = 4.5
31	CS321	Computer Architecture	3(2,1)	3+1.5 = 4.5
32	CS411	Compiler Construction	3(2,1)	3+1.5 = 4.5
33	SE 481	Software Development Technologies	3(2,1)	3+1.5 = 4.5

B. General Courses (40%)

Group A: University Required Courses (24 Credit Hours)

#	Code	Course Title	Cr.Hrs.	Contact Hrs
1	GC101	Understanding Quran I	3(3,0)	3+0 = 3
2	GC102	English I (English Composition & Comprehension)	3(3,0)	3+0 = 3
3	GC103	Understanding Quran II	3(3,0)	3+0 = 3
4	GC104	English II (Communication Skills)	3(3,0)	3+0 = 3
5	GC105	Basic Of Academic Writing	3(3,0)	3+0 = 3
6	GC106	Islamic World View & Civilization – I	3(3,0)	3+0 = 3
7	GC107	Islamic World View & Civilization – II	3(3,0)	3+0 = 3
8	GC109	Pakistani Culture & Society	3(3,0)	3+0 = 3

Group B: Outside Department / Faculty Courses (27 Credit Hours)

#	Code	Course Title	Cr.Hrs.	Contact Hrs
1	Math 110	Calculus And Analytical Geometry	3(3,0)	3+0 = 3
2	Math 121	Liner Algebra	3(3,0)	3+0 = 3
3	ST301	Probability & Statistic	3(3,0)	3+0 = 3
4	Math 352	Multivariate Calculus	3(3,0)	3+0 = 3
5	Math 401	Numerical Computing	3(3,0)	3+0 = 3
6	GC108	Professional Practices	3(3,0)	3+0 = 3
7	GC191	Basic Electronic	3(3,1)	3+1.5 = 4.5
8	GC151	Introduction To Finance	3(3,0)	3+0 = 3
9	GC152	Introduction To Management	3(3,0)	3+0 = 3

Semester Wise Course Offering (BSIT - 134 Cr. Hrs)

1st Semester

Course Code	Pre-Req	Course Title	Credit Hrs
CS 102	-	Introduction to Computing	4 (3,1)
MATH 110	-	Calculus & Analytical Geometry	3 (3,0)
GC 102	-	English I (English Composition & Comprehension)	3 (3,0)
GC 191	-	Basic Electronics	3 (2,1)
CS 291	-	Discrete Structures	3 (3,0)
Total Credit Hrs			**16**

2nd Semester

Course Code	Pre-Req	Course Title	Credit Hrs
CS 111	-	Programming Fundamentals	4 (3,1)
CS 223	GC191	Digital Logic Design	3 (3,0)
GC 104	-	English II (Communication Skills)	3 (3,0)
IT 181	-	Fundamentals of IT	3 (3,0)
GC 101	-	Understanding Quran I	3 (3,0)
Total Credit Hrs			**16**

3rd Semester

Course Code	Pre-Req	Course Title	Credit Hrs
SE 101	CS 111	Object Oriented Paradigm	4 (3,1)
GC 105	-	English-III (Basics of Academic Writing)	3 (3,0)
CS 242	CS 212	Introduction to Database Systems	4 (3,1)
GC 103	-	Understanding Quran II	3 (3,0)
MATH 352	-	Multivariate Calculus	3 (3,0)
Total Credit Hrs			**17**

4th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
CS 372	-	Computer Communications & Networks	3 (2,1)
CS 212	SE 101	Data Structure & Algorithms	3 (2,1)
GC 106	-	Islamic World View & Civilization-I	3 (3,0)
MATH 121	-	Linear Algebra	3 (3,0)
ST301		Probability & Statistic	3 (3,0)
SE 203		Introduction to Software Development	3 (3,0)
Total Credit Hrs			**18**

5th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
IT 331	-	Web Systems & Technologies	3 (2,1)
CS 224	-	Operating System	4 (3,1)
IT 391	-	Elective – I – Organizational Behavior	3 (3,0)
GC 107	-	Islamic World View & Civilization-II	3 (3,0)
GC 151	-	Introduction to Finance	3 (3,0)
IT 361		Multimedia Systems & Design	3 (2,1)
Total Credit Hrs			**19**

6th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
IT 371		Systems and Network Administration	3 (2,1)
IT 341	-	Elective – II - Information Systems	3 (2,1)
GC 152	-	Introduction to Management	3 (3,0)
	-	Elective – III	3 (2,1)
	-	Elective – IV	3 (3,0)
	-	Elective – V	3 (3,0)
Total Credit Hrs			**18**

7th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
IT 481	-	Elective – VI - Technology Management	3 (3,0)
SE 431		Human Computer Interaction	3 (3,0)
IT 471		Introduction to Network Security	3 (3,0)
IT 421		System Integration & Architecture	3 (3,0)
	-	Elective – VI	3 (3,0)
MATH401	-	Numerical Computing	3 (3,0)
Total Credit Hrs			**18**

8th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
SE 400	-	Software Project	6 (0-6)
GC 109	-	Pakistan Culture & Society	3 (3-0)
GE 108	-	Professional Practices	3 (3-0)
Total Credit Hrs			**12**