Bachelor of Science in Information Technology (BSIT)
Scheme of Studies
(2015 - 2017)

Approved scheme of study of BS Information Technology (134 Cr. Hrs), applicable on all BSIT batches inducted in Fall 2015 semester and onwards (updated in Fall 2017). Upon the recommendation of Board of Studies and Board of Faculty, the Academic Council of the IIUI approved this scheme in its 73rd meeting held on Wednesday, 30th May 2018.

Degree Requirements (minimum 134 Credit hours)

Category	Grouping	Credit Hours	% of Total Courses
Information Technology Courses	Computing-Core Courses	44	62%
	Information Technology Courses	18	
	Information Technology Electives*	21	
General Education Courses	University Required Courses (UR)	24	38%
	Other Courses*	27	
Total Credit hours		**134**	
*Minimum credit hours required from the course offered in the group			

Information Technology Courses

Computing Core Courses (44 Credit Hours)

#	Code	Course Title	Cr. Hrs.
1	CS 102	Introduction to Computing	4
2	CS 111	Programming Fundamentals	4
3	SE 101	Object Oriented Paradigm	4
4	CS 291	Discrete Structures	3
5	CS 212	Data Structure and Algorithms	3
6	CS 223	Digital Logic and Design	3
7	CS 224	Operating Systems	4
8	CS 242	Introduction to Database Systems	4
9	SE 203	Introduction to Software Engineering	3
10	CS 372	Computer Communications and Networks	3
11	SE 431	Human Computer Interaction	3
12	IT 400	Senior Design Project	6

Information Technology -- Core Courses (18 Credit Hours)

#	Code	Course Title	Cr. Hrs.
13	IT 181	Fundamentals of Information Technology	3
14	IT 331	Web Systems and Technologies	3
15	IT 361	Multimedia Systems and Design	3
16	IT 371	Systems and Network Administration	3
17	IT 471	Introduction to Network Security	3
18	IT 421	System Integration and Architecture	3

Information Technology -- Elective Courses (Minimum 21 Credit hours)

Student of BSIT are required to pass a minimum of 21 credit hours from the courses given below. This is a tentative list and Department of CS & SE may offer other course to students based on educational trends.

Code	Course Title	Cr. Hrs.
CS 443	Advance Database Management Systems	3
SE 241	Advanced Computer Programming	3
SE 301	Advanced Software Engineering	3
CS 452	Artificial Neural Networks	3
SE 452	Business Process Automation	3
IT 372	Communication Systems Design	3
IT 374	Communication Technologies	3
CS 361	Computer Graphics	3
CS 471	Data and Network Security	3
CS 371	Data Communication	3
CS 474	Data Security and Encryption	3
CS 341	Database Technologies	3
SE 432	Design Patterns	3
CS 491	Digital Signal Processing	3
SE 381	Distributed Application Development	3
SE 342	Distributed Computing	3
SE 343	Enterprise System Development	3
IT 442	Information Retrieval	3
MG 491	Information System Audit	3
IT 341	Information Systems	3
BI 391	Introduction to Bio-Informatics	3
CS 446	Introduction to Data Mining	3
IT 441	Introduction to Data Warehousing	3
CS 492	Introduction to Digital Image Processing	3
IT 373	Introduction to Information Security	3
SE 359	Introduction to Software Metrics	3
IT 451	Knowledge-Based Systems	3
CS 422	Microprocessor Interfacing	3
IT 332	Mobile Application Development	3
SE 321	Object Oriented Analysis and Design	3
CS 402	Operations Research	3
IT 391	Organizational Behaviour	3
CS 431	Principles of Programming Languages	3
CS 426	Real-Time Systems	3
CS 362	Simulation and Modelling	3
SE 481	Software Development Technologies	3
SE 361	Software Engineering Economics	3
SE 472	Software Testing	3
CS 421	System Programming	3
IT 481	Technology Management	3
CS 473	Telecommunication Systems	3
CS 401	Topics in Computer Science	3
IT 491	Topics in Information Technology	3
SE 491	Topics in Software Engineering	3
CS 331	Visual Programming	3
SE 341	Web Based Application Development	3

Code	Course Title	Cr. Hrs.
CS 432	Web Engineering	3
IT 333	Web Services	3
CS 472	Wireless Networks	3
CS 451	Artificial Intelligence	3
CS 411	Compiler Construction	3
CS 321	Computer Architecture	3
CS 322	Computer Organization and Assembly Language	3
CS 314	Theory of Automata & Formal Languages	3
CS 213	Design and Analysis of Algorithms	3
SE 302	Software Construction	3
SE 331	Software Design and Architecture	3
SE 322	Formal Methods in Software Engineering	3
SE 461	Software Project Management	3
SE 471	Software Quality Engineering	3
SE 311	Software Requirements Engineering	3

General Education Courses

University Required Courses (24 Credit Hours)

#	Code	Course Title	Cr. Hrs.
1	GC 101	Understanding Quran I	3
2	GC 102	English I (English Composition & Comprehension)	3
3	GC 103	Understanding Quran II	3
4	GC 104	English II (Communication Skills)	3
5	GC 105	Basics Of Academic Writing	3
6	GC 106	Islamic World View & Civilization – I	3
7	GC 107	Islamic World View & Civilization – II	3
8	GC 109	Pakistani Culture & Society	3

Other courses (Minimum 27 Credit Hours)

Student of BSIT are required to pass a minimum of 27 credit hours from the courses given below. This is tentative list and Department of CS & SE may offer other course(s) to students based on educational trends.

Code	Course Title	Cr. Hrs
MATH 110	Calculus & Analytical Geometry	3
MATH 121	Linear Algebra	3
MATH 352	Multivariate Calculus	3
MATH 401	Numerical Computing	3
MATH 241	Differential Equation	3
ST 301	Probability & Statistics	3
GE 112	Professional & Ethical Issues	3
GC 191	Basic Electronics	3
GC 151	Introduction to Finance	3
GC 152	Introduction to Management	3
GC 204	Introduction to Sociology	3
GC 205	Introduction to Psychology	3
GC 131	Media Studies	3
GE 401	Entrepreneurship	3
GE 402	Industrial Seminar	1

Agenda item no 14, approved by Academic Council in its 73rd Meeting held on Wednesday 30th May, 2018

Tentative Semester Wise Course Offering (BSIT)

Tentative course offering plan for BS Information Technology degree offered from Fall 2015-17 is given below in a semester wise format:

1st Semester

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

2nd Semester

Course Code	Pre-Req	Course Title	Cr Hrs
CS 111	-	Programming Fundamentals	4
CS 223	GC 191	Digital Logic Design	3
GC 104	-	English II (Communication Skills)	3
IT 181	-	Fundamentals of IT	3
GC 101	-	Understanding Quran I	3
		Total Credit Hrs	**16**

3rd Semester

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

4th Semester

Course Code	Pre-Req	Course Title	Cr. Hrs
CS 372	-	Computer Communications & Networks	3
CS 212	SE 101	Data Structure & Algorithms	3
GC 106	-	Islamic World View & Civilization-I	3
MATH 121	-	Linear Algebra	3
ST 301		Probability & Statistic	3
SE 203		Introduction to Software Development	3
		Total Credit Hrs	**18**

5th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
IT 331	-	Web Systems & Technologies	3
CS 224	-	Operating System	4
IT 391	-	Elective – I	3
GC 107	-	Islamic World View & Civilization-II	3
-		General Education Course	3
IT 361		Multimedia Systems & Design	3
Total Credit Hrs			**19**

6th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
IT 371		Systems and Network Administration	3
IT 341	-	Elective – II	3
	-	General Education Course	3
	-	Elective – III	3
	-	Elective – IV	3
	-	Elective – V	3
Total Credit Hrs			**18**

7th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
IT 481	-	Elective – VI - Technology Management	3
SE 431		Human Computer Interaction	3
IT 471		Introduction to Network Security	3
IT 421		System Integration & Architecture	3
		Elective – VI	3
		General Education Course	3
Total Credit Hrs			**18**

8th Semester

Course Code	Pre-Req	Course Title	Credit Hrs
SE 400	-	Software Project	6
GC 109	-	Pakistan Culture & Society	3
	-	General Education Course	3
Total Credit Hrs			**12**