COMSATS Institute of Information Technology

Registrar Office, Principal Seat, Islamabad

***

Scheme of Studies of Bachelor of Science in Software Engineering for Fall 2017

1. Minimum Duration: 04 Years

2. Minimum No. of Semesters: 08

Course Work		
1 Core Courses		
	(Min No. of Courses)	(Min No. of Credit Hrs)
1. Computing Core Courses	13	45
2. Computing Supporting Areas Courses	4	13
3. Computing General Education Courses	6	18
4. Software Engineering Core Courses	6	18
2 Elective Courses		
	(Min No. of Courses)	(Min No. of Credit Hrs)
1. Supporting Science	3	9
2. CS and SE Elective Courses	5	15
3. Institutional Elective Courses	3	9
4. Domain Elective Courses	2	6

Total No. of Courses of the Program: 42

Total No. of Credit Hours of the Program: 133

Note:

The Regulations relating to UnderGraduate Degree Program approved by the Competent Authority and amended from time to time shall also be applicable to this program.

Print Page

List of Core Courses:

Currently there is no data available.

Computing Core Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
1	CSC101	Introduction to ICT	3(2, 1)		
2	CSC102	Discrete Structures	3(3, 0)		
3	CSC103	Programming Fundamentals	4(3, 1)		
4	CSC211	Data Structures and Algorithms	4(3, 1)		CSC103
5	CSC241	Object Oriented Programming	4(3, 1)		CSC103
6	CSC322	Operating Systems	3(2, 1)		CSC211
7	CSC339	Data Communications and Computer Networks	3(2, 1)		
8	CSC356	Human Computer Interaction	3(2, 1)		
9	CSC371	Database Systems I	4(3, 1)		CSC241
10	CSE291	Introduction to Software Engineering	4(3, 1)		
11	CSE498	Senior Design Project I	2(0, 2)		CSC241 ,CSC371 ,CSE291 ,HUM102
12	CSE499	Senior Design Project II	4(0, 4)		CSE498
13	EEE241	Digital Logic Design	4(3, 1)		

Computing General Education Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
14	CSC110	Professional Practices for IT	3(3, 0)		
15	HUM100	English Comprehension and Composition	3(3, 0)		
16	HUM102	Report Writing Skills	3(3, 0)		HUM100
17	HUM103	Communication Skills	3(3, 0)		HUM100
18	HUM110	Islamic Studies	3(3, 0)		
19	HUM111	Pakistan Studies	3(3, 0)		

Computing Supporting Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
20	EEE121	Electric Circuits Analysis I	4(3, 1)		
21	MTH104	Calculus and Analytic Geometry	3(3, 0)		
22	MTH231	Linear Algebra	3(3, 0)		
23	MTH262	Statistics and Probability Theory	3(3, 0)		

CS and SE Elective Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
24	CSC321	Microprocessor and Assembly Language	3(2, 1)		EEE241
25	CSC331	Digital Image Processing	3(3, 0)		MTH231
26	CSC334	Parallel and Distributed Computing	3(2, 1)		CSC103
27	CSC347	Computational Intelligence	3(3, 0)		CSC241
28	CSC402	Database Systems II	3(3, 0)		CSC371
29	CSC412	Visual Programming	3(2, 1)		CSC241
30	CSC430	Wireless Networks	3(2, 1)		CSC339
31	CSC432	Information Security	3(3, 0)		CSC339
32	CSC443	Scripting Languages	3(2, 1)		CSC241
33	CSC451	Introduction to Modeling and Simulation	3(2, 1)		CSC211
34	CSC454	Pattern Recognition	3(3, 0)		CSC354
35	CSC455	Computer Vision	3(3, 0)		MTH231
36	CSC461	Introduction to Data Science	3(3, 0)		MTH262
37	CSC462	Artificial Intelligence	3(2, 1)		CSC102
38	CSC471	Distributed Database Systems	3(3, 0)		CSC371
39	CSC482	Systems and Networks Administration	3(2, 1)		CSC339
40	CSC495	Game Development	3(2, 1)		CSC241
41	CSE300	Software Metrics	3(3, 0)		CSE291
42	CSE330	E-Commerce	3(2, 1)		
43	CSE331	Software Engineering Economics	3(3, 0)		
44	CSE332	Information System Audit	3(3, 0)		
45	CSE333	Software Process Improvement	3(3, 0)		
46	CSE334	Reverse Engineering of Source Code	3(2, 1)		
47	CSE350	Topics in Software Engineering I	3(3, 0)		
48	CSE354	Design Patterns	3(2, 1)		
49	CSE356	Formal Methods	3(3, 0)		CSE291
50	CSE483	Topics in Software Engineering II	3(3, 0)		

Enterprise Security Architecture

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
51	CSC432	Information Security	3(3, 0)		CSC339
52	CSC433	Cryptography and Network Security	3(3, 0)		CSC339

Information Systems and Data Processing

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
53	CSC354	Machine Learning	3(3, 0)		
54	CSC496	Data Warehousing and Data Mining	3(2, 1)		CSC271

Institutional Elective Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
55	HUM220	Introduction to Psychology	3(3, 0)		
56	HUM221	International Relations	3(3, 0)		
57	HUM320	Introduction to Sociology	3(3, 0)		
58	HUM430	French	3(3, 0)		
59	HUM431	German	3(3, 0)		
60	HUM432	Arabic	3(3, 0)		
61	HUM433	Persian	3(3, 0)		
62	HUM434	Chinese	3(3, 0)		
63	HUM435	Japanese	3(3, 0)		
64	MGT100	Introduction to Business	3(3, 0)		
65	MGT101	Introduction to Management	3(3, 0)		
66	MGT131	Financial Accounting	3(3, 0)		
67	MGT210	Fundamentals of Marketing	3(3, 0)		
68	MGT350	Human Resource Management	3(3, 0)		
69	MGT403	Entrepreneurship	3(3, 0)		
70	MGT522	Marketing of IT and Telecom Products	3(3, 0)		

Safety Critical Systems

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
71	CSE360	Software Safety Critical Systems	3(3, 0)		
72	CSE361	Software Fault Tolerance	3(3, 0)		

Scientific Systems

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
73	CSC353	Computer Graphics	3(2, 1)		MTH231
74	CSC448	Data Visualization	3(3, 0)		

Software Engineering Core Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
75	CSE302	Software Quality Engineering	3(3, 0)		CSE291
76	CSE303	Software Design and Architecture	3(3, 0)		CSE291
77	CSE304	Object Oriented Software Engineering	3(2, 1)		CSE291
78	CSE305	Software Requirement Engineering	3(3, 0)		CSE291
79	CSE455	Software Testing	3(2, 1)		CSE291
80	CSE494	Software Project Management	3(2, 1)		CSE291

Supporting Science Elective Courses

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
81	BIO100	Fundamentals of Biology	3(2, 1)		
82	BIO135	General Chemistry	4(3, 1)		
83	BIO231	Fundamentals of Genetics	4(3, 1)		
84	BIO233	Development Biology	4(3, 1)		
85	BIO310	Introduction to Bioinformatics	4(3, 1)		
86	BSC101	Zoology I	4(3, 1)		
87	BSC102	Plant Sciences I	4(3, 1)		
88	BSC206	Introduction to Microbiology	4(3, 1)		
89	CSC475	Numerical Computing	3(3, 0)		MTH104
90	ENV230	Environmental Monitoring	3(2, 1)		
91	MTH105	Multivariable Calculus	3(3, 0)		MTH104
92	MTH112	Set Theory and Logic	3(3, 0)		
93	MTH232	Abstract Algebra	3(3, 0)		
94	MTH242	Differential Equations	3(3, 0)		MTH104
95	MTH251	Set Topology	3(3, 0)		
96	PHY100	Mechanics and Thermodynamics	4(3, 1)		
97	PHY120	Electricity, Magnetism and Optics	4(3, 1)		
98	PHY229	Modern Physics	4(3, 1)		PHY120
99	SLS130	Introductory Soil Science I	4(3, 1)		

Web Technologies

	Course Code	Course Title	Credit Hours	Co-requisite(s)	Prerequisite(s)
100	CSC303	Mobile Application Development	3(2, 1)		CSC241
101	CSC336	Web Technologies	3(2, 1)		CSC241
102	CSE344	Semantic Web	3(2, 1)		

Note:

The BoF-IS&T in its 17th meeting held on March 26, 2014 approved the addition of HUM114 Ethics 3(3, 0) course for non-muslim students in lieu of HUM110 Islamic Studies 3(3, 0), if they opt for that. Note (For CIIT Islamabad and CIIT Sahiwal Campuses only). On the recommendations of BoS for Computer Science and in anticipation to the approval of the statutory bodies, the students of Fall 2013 batch of BS(CS), BS(TN) and BS(SE) programs at CIIT Islamabad and CIIT Sahiwal Campus only, who have not registered Project of 2(0, 2) credit hours in Fall 2016 semester are allowed to register Project of 6(0, 6) credit hours in Spring 2017 semester and onwards;

Printed At:
Monday, September 11, 2017