Mirpur University of Science & Technology

Scheme of Studies Bachelor of Science in Computer Science (BSCS) of Session 2021-25

Duration:	4-7 years
Semesters:	8-14 semesters
No. of weeks per semester:	18 (16 for teaching and 2 for examination)
Total no. of credit hours (CH):	136
No. of credit hours per semester	15-18

Semester Wise Breakdown

#	Code	Pre-Req	Course Title	Cr hr
			Semester 1	
1	BCS-1101		Introduction to Information and Communication Technology	3(2-1)
2	BCS-1102		Programming Fundamentals	4(3-1)
3	PHY-1118		Applied Physics	3(3-0)
4	MAT-1115		Calculus and Analytical Geometry	3(3-0)
5	ENG-1107		English Composition & Comprehension	3(3-0)
				16 (14-2)
			Semester 2	
1	BCS-1203	BCS-1102	Object Oriented Programming	4(3-1)
2	BCS-1204		Digital Logic Design	4(3-1)
3	ENG-1207		Communication & Presentation Skills	3(3-0)
4	PSY-1219		Psychology	3(3-0)
5	STA-1220		Statistics and Probability	3(3-0)
				17 (15-2)
			Semester 3	
1	BCS-2305		Data Structures and Algorithms	4(3-1)
2	BCS-2306		Computer Organization and Assembly Language	3(2-1)
3	BCS-2307		Software Engineering	3(3-0)
4	MAT-2315		Differential Equations	3(3-0)
5	BCS-2308		Discrete Structures	3(3-0)
6	ISL-2312		Islamic Studies	2(2-0)
				18 (16-2)
			Semester 4	
1	BCS-2409		Design and Analysis of Algorithms	3(3-0)
2	MAT-2415		Linear Algebra	3(3-0)
3	BCS-2410		Database Systems	4(3-1)
4	BCS-2411		Operating Systems	4(3-1)
5	ARA-2401		Arabic	3(3-0)
				17 (15-2)
			Semester 5	
1	BCS-3512	BCS-2411	Parallel & Distributed Computing	3(3-0)

2	BCS-3513		Theory of Automata	3(3-0)
3	MAT-3515		Numerical Computing	3(3-0)
3	BCS-35XX		CS Elective-1	4(3-1)
5	BCS-35XX		CS Elective-2	4(3-1)
				17 (15-2)
		Semester 6		
1	BCS-3614		Artificial Intelligence	3(3-0)
2	BCS-3615		Computer Networks	3(3-0)
3	BCS-3616		Compiler Construction	3(3-0)
4	PS-3617		Pakistan Studies	2(2-0)
5	BCS-36XX		CS Elective-4	4(3-1)
6	BSC-36XX		CS Elective-3	3(3-0)
				18(17-1)
		Semester 7		
1	BCS-4717		Information Security	3(3-0)
2	BCS-4718		Final Year Project I	S/U(0-0)
3	HUM-4704		Professional Practices	3(3-0)
4	ENG-4707		Technical and Business Writing	3(3-0)
5	ECO-4706		Economics	3(3-0)
6	BCS-4719		Human Computer Interaction	3(3-0)
7	BCS-47XX		CS Elective-5	3(2-1)
				18 (17-1)
		Semester 8		
1	BCS-4820		Final Year Project II	6(0-6)
2	BSC-4821		Theory of Programming Languages	3(3-0)
3	HRM-4809		Human Resource Management	3(3-0)
4	BCS-4822		Internship/ Practical Training	S/U
5	BCS-48XX		CS Elective-6	3(3-0)
				15 (9-6)

List of Elective Courses

*Students can register elective courses across the computing discipline

#	Code	Pre-Req.	Course Title	Cr hr
1	BCS-4823		Semantic Web	3(3-0)
2	BCS-4724		Visual Programming	3(2-1)
3	BCS-3525		Web Design and Development	4(3-1)
4	BCS-3626		Mobile Application Development	4(3-1)
5	BCS-3527		Computer Graphics and Animations	4(3-1)
6	BCS-3528		Distributed Database System	4(3-1)
7	BCS-3629		Data Mining	3(3-0)
8	BCS-4730		Big Data Analytics	3(3-0)
9	BCS-3631		Wireless Networks	3(3-0)
10	BCS-4732		System and Network Administration	4(3-1)
11	BCS-4733		Network Security	3(3-0)

#	Code	Pre-Req	Course Title	Cr hr
12	BCS-4834		Deep Learning	3(3-0)
13	BCS-4735		Digital Image Processing	3(3-0)
14	BCS-4836		Applications in block chain	3(3-0)
15	BCS-3537		Introduction to Python Programming	4(3-1)
16	BCS-3638		Information System	3(3-0)
17	BCS-3539		Object Oriented Analysis and Design	3(3-0)
18	BCS-3640		Game Development	3(3-0)

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5	ENG-1107		English Composition & Comprehension	3(3-0)
				16(14-2)
			Semester 2	
1	BIT-1203	BIT-1102	Object Oriented Programming	4(3-1)
2	ENG-1207		Communication & Presentation Skills	3(3-0)
3	BIT-1204		Enterprise Systems	3(3-0)
4	STA-1220		Probability and Statistics	3(3-0)
5	HRM-1209		Human Resource Management	3(3-0)
6	PSY-1219		Psychology	3(3-0)
				19(18-1)
			Semester 3	
1	BIT-2405		Database Systems	4(3-1)
2	BIT-2306		Data Structure and Algorithms	4(3-1)
3	BIT-2307		Discrete Structures	3(3-0)
4	MAT-2305		Linear Algebra	3(3-0)
5	BIT-2308		Information Technology Infrastructure	3(3-0)
				17(15-2)
			Semester 4	
1	BIT-2409		Software Engineering	3(3-0)
2	ISL-2312		Islamic Studies	2(2-0)
3	BIT-2410		Computer Networks	4(3-1)

4	BIT-2411		Operating Systems	4(3-1)
5	ARA-2401		Arabic	3(3-0)
				16(14-2)
Semester 5
1	BIT-3512		Information Technology Project Management	3(3-0)
2	BIT-3513		System & Network Administration	4(3-1)
3	BIT-3514		Information Security	3(3-0)
4	BIT-35XX		IT Elective-1	4(3-1)
5	BIT-35XX		IT Elective-2	3(3-0)
				17(15-2)
Semester 6
1	BIT-3615		Cyber Security	3(3-0)
2	BIT-3616		Web Technologies	3(3-0)
3	BIT-3617		Database Administration & Management	4(3-1)
4	BIT-36XX		IT Elective-3	4(3-1)
5	BIT-36XX		IT Elective-4	3(3-0)
				17(15-2)
Semester 7
1	BIT-4718		Final Year Project	s/u
2	BIT-4719		Operations Research	3(3-0)
3	HUM-4704		Professional Practices	3(3-0)
4	BIT-4720		Virtual System and Services	4(3-1)
5	MGS-4702		Economics	3(3-0)
6	BIT-47XX		IT Elective-5	4(3-1)
				17(15-2)
Semester 8
1	BIT-4821		Final Year Project	6(0-6)
2	ENG-4807		Technical and Business Writing	3(3-0)
3	BIT-4822		Modelling and Simulation	3(3-0)
4	BIT-4823		Internship/ Practical Training	S/U
5	PS-4817		Pakistan Studies	2(2-0)
6	BIT-48XX		IT Elective-6	3(3-0)
				17(11-6)

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1	BIT-4824		Semantic Web	3(3-0)
2	BIT-3525		Visual Programming	4(3-1)
3	BIT-3526		Web Design and Development	4(3-1)
4	BIT-3627		Mobile Application Development	4(3-1)
5	BIT-3528		Programming in Python	4(3-1)
6	BIT-3529		Wireless Networks	3(3-0)
7	BIT-3630		Telecommunication System	3(3-0)

8	BIT-4831		Ethical Hacking	3(3-0)
9	BIT-4732		Network Security	3(3-0)
10	BIT-4733		Ecommerce	3(3-0)
11	BIT-3534		Information System	3(3-0)
12	BIT-4835		Robotics	3(3-0)
13	BIT-3636		Big Data Analytics	3(3-0)
14	BIT-3637		Data Mining	3(3-0)