



# Abdul Wali Khan University Mardan

Department of Computer Science

BCS (Hons.) Program

(Curriculum)

Semester 1			
Code	Title	Credit Hour	Pre-Requisite
IS-301	Islamic Studies	2	
Math-301	Calculus and Analytical Geometry	3	
CS-301	Introduction to Computing and Technology	4(3+1)	
CS-302	Programming Fundamentals	4(3+1)	
Eng-301	Functional English	3	
		<b>16</b>	

Semester 2			
Code	Title	Credit Hour	Pre-Requisite
PS-351	Pakistan Studies	2	
Math-351	Multivariate Calculus	3	Math-301
CS-351	Object Oriented Programming	4(3+1)	CS-302
Phy-351	Basic Electronics	3(2+1)	
Eng-351	Communication Skills	3	Eng-301
		<b>15</b>	

<b>Semester 3</b>			
<b>Code</b>	<b>Title</b>	<b>Credit Hour</b>	<b>Pre-Requisite</b>
CS-401	Digital Logic and Design	3(2+1)	
Math-401	Discrete Structure	3	
CS-402	Data Structures	4(3+1)	CS-351
CS-403	Probability and Statistics	3	
Eng-401	Technical Writing	3	Eng-301
		<b>16</b>	

<b>Semester 4</b>			
<b>Code</b>	<b>Title</b>	<b>Credit Hour</b>	<b>Pre-Requisite</b>
Cs-451	Database Systems	4(3+1)	
CS-452	Operating Systems	4(3+1)	CS-351
CS-453	Data Communications	3	CS-301
CS-454	Advance Computer Programming (Java)	4(3+1)	CS-351
Math-451	Linear Algebra	3	Math-301
		<b>18</b>	

<b>Semester 5</b>			
<b>Code</b>	<b>Title</b>	<b>Credit Hour</b>	<b>Pre-Requisite</b>
CS-501	Introduction to Networks	3(2+1)	CS-453
CS-502	Automata Theory	3	Math-401
CS-503	Design and Analysis of Algorithms	3	CS-402
CS-504	Introduction to Software Development	3	CS-351
	Tech-Elective-1 (web development application)	3	
		<b>15</b>	

<b>Semester 6</b>			
<b>Code</b>	<b>Title</b>	<b>Credit Hour</b>	<b>Pre-Requisite</b>
CS-551	Compiler Construction	3	CS-502
CS-552	Artificial Intelligence	3 (2+1)	CS-503
CS-553	Computer Organization and Assembly Language	3(2+1)	CS-401
	University Elective-I	3	
	Tech-Elective II	3	
	Tech-Elective III	3	
		<b>18</b>	

<b>Semester 7</b>			
<b>Code</b>	<b>Title</b>	<b>Credit Hour</b>	<b>Pre-Requisite</b>
Math-601	Numerical Computing	3	
CS-601	Human Computer Interaction	3(2+1)	
	University Elective-II (E-Commerce)	3	
	Tech Elective –IV (Fuzzy Logic and Control)	3	
	Tech-Elective –V (Data Mining and Data Warehousing)	3	
CS-651	Senior Design Project	3	CS-504
		<b>18</b>	

<b>Semester 8</b>			
<b>Code</b>	<b>Title</b>	<b>Credit Hour</b>	<b>Pre-Requisite</b>
	University Elective-III	3	
	Tech-Elective-VI	3	
	Tech-Elective-VII	3	
	University Elective-IV	3	
CS-651	Senior Design Project	3	
		<b>15</b>	

Total Credit hours: 131 / 130