BS - Data Science

Semester – I (16CH)

Code	Course Title	Credit Hours	Labs	Total
COMP-102	Introduction to ICT	2		2
COMP-102L	Introduction to ICT Lab		1	1
COMP-111	Programming Fundamentals	3		3
COMP-111L	Programming Fundamentals Lab		1	1
SS-101	Functional English	2		2
MTH-101	Calculus and Analytical Geometry	3		3
PHY-101	Applied Physics	3		3
PHY-101L	Applied Physics Lab		1	1
	Total Credit Hours	**13**	**3**	**16**

Semester – II (19CH)

Code	Course Title	Credit Hours	Labs	Total
COMP-112	Object Oriented Programming	3		3
COMP-112L	Object Oriented Programming Lab		1	1
MTH-204	Linear Algebra	3		3
MTH-206	Probability and Statistics	3		3
SS-102	Communication Skills	2		2
EE-101	Digital Logic Design	3		3
EE-101L	Digital Logic Design Lab		1	1
COMP-121	Discrete Structures	3		3
	Total Credit Hours	**17**	**2**	**19**

Semester – III (18CH)

Code	Course Title	Credit Hours	Labs	Total
COMP-201	Data Structures and Algorithms	3		3
COMP-201L	Data Structures and Algorithms Lab		1	1
COMP-291	Information Security	3		3
COMP-342	Artificial Intelligence	3		3
COMP-342L	Artificial Intelligence Lab		1	1
MTH-203	Differential Equations	3		3
COMP-261	Comp. Organization and Assembly Lang.	3		3
COMP-261L	Comp. Organization and Assembly Lang. Lab		1	1
	Total Credit Hours	**15**	**3**	**18**

Semester – IV (17CH)

Code	Course Title	Credit Hours	Labs	
COMP-353	Computer Networks	3		3
COMP-353L	Computer Networks Lab		1	1
COMP-222	Design and Analysis of Algorithms	3		3
COMP-233	Introduction to Data Science	2		2
COMP-233L	Introduction to Data Science Lab		1	1
MTH-207	Applied Statistics	3		3
COMP-231	Database Systems	3		3
COMP-231L	Database Systems Lab		1	1

	Total Credit Hours	**14**	**3**	**17**
Semester – V (18CH)				
Code	**Course Title**	**Credit Hours**	**Labs**	
COMP-262	Operating Systems	3		3
COMP-262L	Operating Systems Lab		1	1
COMP-332	Data Mining	2		2
COMP-332L	Data Mining Lab		1	1
COMP-331	Data Warehousing	2		2
COMP-331L	Data Warehousing Lab		1	1
	DS Electiv-1	3		3
	DS Elective-2	2		2
	DS Elective-2 Lab		1	1
SS-331	Community Service (University Elective-I)		2	2
	Total Credit Hours	**12**	**6**	**18**
Semester – VI (18CH)				
Code	**Course Title**	**Credit Hours**	**Labs**	
COMP-460	Parallel and Distributed Computing	2		2
COMP-460L	Parallel and Distributed Computing Lab		1	1
COMP-432	Big Data Analytics	2		2
COMP-432L	Big Data Analytics Lab		1	1
COMP-433	Data Visualization	2		2
COMP-433L	Data Visualization Lab		1	1
	DS Elective-3	3		3
	DS Elective-4	3		3
SS-221	Organizational Behavior (University Elective-II)	3		3
	Total Credit Hours	**15**	**3**	**18**
Semester – VII (17CH)				
Code	**Course Title**	**Credit Hours**	**Labs**	
COMP-497	Final Year Project I		3	3
COMP-171	Software Engineering	3		3
COMP-333	Management Information System (University Elective-III)	3		3
SS-203	Technical and Business Writing	3		3
SS-111	Islamic Studies	2		2
	Total Credit Hours	**11**	**3**	**14**
Semester – VIII (11CH)				
Code	**Course Title**	**Credit Hours**	**Labs**	
COMP-498	Final Year Project II		3	3
MGT-262	Entrepreneurship **(**University Elective-IV**)**	3		3
SS-322	Professional Ethics	3		3
SS-112	Pak Studies	2		2
	Total Credit Hours	**8**	**3**	**11**
				Grand Total: 131