

## BS Computer Science

BS Computer Science					
<b>Semester 1</b>	Course Code	Course Title	Credit Hrs	Sections	
	CP103	Introduction to Computing	3	30	
	CP101	Introduction to Computing - Lab	1	30	
	GE102	Basic Electronics	2	30	
	GE101	Basic Electronics - Lab	1	30	
	ENG110	Functional English	3	30	
	PAK102	Ideology and Constitution of Pakistan	2	30	
	AL143	Discrete Structures	3	30	
	<b>Only for Medical background students</b>				
	MAT103	Pre-Calculus	3	6	
<b>Semester 2</b>	Course Code	Course Title	Credit Hrs	Sections	
	CP113	Programming Fundamentals	3	5	
	CP111	Programming Fundamentals-LAB	1	5	
	AR102	Digital Logic and Design	2	5	
	AR101	Digital Logic and Design-LAB	1	5	
	ENG102	Expository Writing	3	5	
	MAT113	Calculus and Analytical Geometry	3	5	
	CCE201	Civics and Community Engagement	2	5	
	<b>Only for Medical background students</b>				
	MAT123	Elementary Algebra	3	1	
<b>Semester 3</b>	Course Code	Course Title	Credit Hrs	Sections	
	CSCP2023	Object Oriented Programming	3	24	

Semester 3	CSCP2021	Object Oriented Programming Lab	1	24
	CSCS3543	Computer Org. & Assembly Lang.	3	24
	CSCS3541	Computer Org. & Assembly Lang. Lab	1	24
	CSSS2733	Multivariate Calculus	3	24
	CSAL1213	Discrete Structures	3	24
	QTR101	Quran Translation	1	24
	ISL201	Islamic Studies	2	24
Semester 4	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hrs</b>	<b>Sections</b>
	CSCP2033	Data Structure & Algorithms (DSA-T) – Theory	3	7
	CSCP2031	Data Structure & Algorithms (DSLAB) – Lab	1	7
	CSDB2313	Introduction to Database Systems (DB-T) – Theory	3	7
	CSDB2311	Introduction to Database Systems (DB-LAB) – Lab	1	7
	ENG203	Technical and Report Writing	3	7
	CSSS2753	Linear Algebra (LA)	3	7
	CSST3663	Microcontroller Programming and Interfacing (MPI)	3	2
	CSAL4323	3D Computer Graphics (3DCG)	3	3
	CSSE4153	Human Computer Interaction	3	2
Semester 5	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hrs</b>	<b>Sections</b>
	CSCS3553	Operating Systems (OS-T) – Theory	3	15
	CSCS3551	Operating Systems (OS-Lab) – Lab	1	15
	CSSE3113	Introduction to Software Engineering - I (ISD)	3	15
	CSAL3233	Design and Analysis of Algorithm (AA)	3	15
	CSSS2763	Differential Equation (DE)	3	15

S	CSSE3143	Web Application Development (WAD)	3	4
	CSCP3063	Mobile Application Development (MAD)	3	4
	CSAL3203	Introduction to Image Processing (IIP)	3	3
	CSST3633	Game Development (GD)	3	3
	CSST4693	Introduction to Robotics	3	1
Semester 6	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hrs</b>	<b>Sections</b>
	CSAL3243	Artificial Intelligence (AI-T)	3	7
	CSAL3241	Artificial Intelligence (AI-Lab)	1	7
	CSNC2413	Computer Communications and Networks (CCN-T)	3	7
	CSNC2411	Computer Communications and Networks (CCN-Lab)	1	7
	CSAL3253	Theory of Automata (TOA)	3	7
	CSHU2813	Technical and Business Writing (ENG-3)	3	7
	CSAL3273	Mathematics For Machine Learning	3	1
	CSAL3213	Advanced 3D Modeling for Games (ADMG)	3	1
	CSDS4473	Big Data Analytics	3	2
	CSNC3453	Cloud Computing	3	3
	Semester 7	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hrs</b>
CSNC3413		Information Security (ISEC)	3	11
CSCS4573		Compiler Construction (CC)	3	11
CSAL4263		Numerical Computing (NM)	3	11
CSSE4173		Final Year Project 1 (FYP-I)	3	1
CSMG3943		Organizational Behavior and Culture (OBC)	3	6
CSMG2913		Technology Entrepreneurship (TENT)	3	5

	CSDB4313	Introduction to Data Science (IDS)	3	2
	CSAL4243	Introduction to Machine Learning	3	3
	CSSE4193	Software Testing	3	2
	CSAL4253	Introduction to Natural Language Processing	3	2
	CSCS4583	Digital Forensic	3	2
<b>Semester 8</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hrs</b>	<b>Sections</b>
	CSGE4963	Professional Practices(PP)	3	4
	CSCS2543	Parallel and Distributed Computing	3	4
	CSSE4183	Final Year Project 2 (FYP-II)	3	1
	CSHU4213	Business Law	3	1
	CSMG4913	Fundamentals of Enterprise Resource Planning	3	1
	CSHU3873	Speak Well - English Conversation	3	2
	CSNC4403	Introduction to Cryptography	3	2
	CSAL4333	Intoduction to Deep Learning	3	2