

Course Offering
Semester: Spring 2024
Program: BS (CS) - MS (CS)

S.#	Code	Course Title	Status	Section	Hidden Sec.	Pre-Req.	Co-Req.	Semester	Remarks
1.	CS1133	Introduction to Programming	Core	2	0	Nil	CS1131	1	Click here to enter text.
2.	CS1131	Introduction to Programming Lab	Core	3	0	Nil	CS1133	1	Click here to enter text.
3.	CSG1022	Ideology and Constitution of Pakistan	G. Edu	2	0	Nil	Nil	1	Click here to enter text.
4.	CSG1113	Functional English	G. Edu	2	0	Nil	Nil	1	Click here to enter text.
5.	MTCS1013	Calculus and Analytical Geometry	Math & Science	2	0	Nil	Nil	1	Students with Pre-Medical Background will not be offered MTCS1013
6.	PHCS1013	Applied Physics	Math & Science	2	0	Nil	Nil	1	Click here to enter text.
7.	CS1143	Object Oriented Programming	Core	4	0	CS1133	CS1141	2	Click here to enter text.
8.	CS1141	Object Oriented Programming Lab	Core	5	0	CS1131	CS1143	2	Click here to enter text.
9.	CSG1012	Islamic Studies/Ethics	G. Edu	4	0	Nil	Nil	2	Click here to enter text.
10.	CSG1010	Taleem Ul Quran	G. Edu	4	0	Nil	Nil	2	Click here to enter text.
11.	CSG1123	Expository Writing	G. Edu	4	0	HMCS1013	Nil	2	Click here to enter text.

S.#	Code	Course Title	Status	Section	Hidden Sec.	Pre-Req.	Co-Req.	Semester	Remarks
12.	HMCS2053	Introduction to Psychology	Uni. Elective	4	0	Nil	Nil	2	Click here to enter text.
13.	CS2053	Discrete Structures	Core	4	0	CS1133	Nil	2	Click here to enter text.
14.	MTCS1033	Linear Algebra	Math & Science	4	0	MTCS1013	Nil	2	Students with Pre-Medical background will be offered this course after they have passed Basic Mathematics I & II and MTCS1013
15.	MTCS1103	Basic Mathematics-II	Supp. Science	0	0	MTCS1003	Nil	2	Shared with SE Deptt. (Only for pre-Medical Background Students)
16.	HMCS2033	Technical Report Writing	G. Edu	2	0	HMCS1023	Nil	3	Click here to enter text.
17.	HMCS2243	English Literature - I	Uni. Elective	2	0	HMCS1023	Nil	3	Click here to enter text.
18.	CS2313	Introduction to Database Systems	Core	2	0	CS1143	CS2311	3	Click here to enter text.
19.	CS2311	Introduction to Database Systems Lab	Core	3	0	CS1141	CS2313	3	Click here to enter text.
20.	CS2143	Data Structures	Core	2	0	CS1143	CS2141	3	Click here to enter text.
21.	CS2141	Data Structures Lab	Core	3	0	CS1141	CS2143	3	Click here to enter text.
22.	MTCS3063	Probability & Statistics	Math &	2	0	MTCS1033	Nil	3	Click here to enter

S.#	Code	Course Title	Status	Section	Hidden Sec.	Pre-Req.	Co-Req.	Semester	Remarks
			Science						text.
23.	CS2513	Digital Logic Design	Core	3	0	CS2053	CS2511	4	Click here to enter text.
24.	CS2511	Digital Logic Design Lab	Core	6	0	CS2053	CS2513	4	30 students/section
25.	CS2223	Software Engineering-I	Core	3	0	CS2313	Nil	4	Click here to enter text.
26.	CS3073	Numerical Computing	CS Supporting	3	0	CS1133	Nil	4	Click here to enter text.
27.	CS3413	Operating Systems	Core	3	0	CS2143	CS3411	4	Click here to enter text.
28.	CS3411	Operating Systems Lab	Core	5	0	CS2141	CS3413	4	Click here to enter text.
29.	CS3773	Computer Networks	Core	3	0	CS2143	CS3771	4	Click here to enter text.
30.	CS3771	Computer Networks Lab	Core	4	0	CS2141	CS3773	4	Click here to enter text.
31.	CS2523	Computer Organization and Assembly Language	Core	2	0	CS2513	CS2521	5	Click here to enter text.
32.	CS2521	Computer Organization and Assembly Language Lab	Core	2	0	CS2511	CS2523	5	Click here to enter text.
33.	CS3163	Design and Analysis of Algorithms	Core	2	0	CS2143	Nil	5	Click here to enter text.
34.	CS3613	Theory of Automata & Formal Lang.	Core	2	0	CS2143	Nil	5	Click here to enter text.
35.	CS3713	Introduction to Information Security and forensics	Core	2	0	CS3773	Nil	5	Click here to enter text.
36.	CS3283	Graph Algorithms	CS Supporting	2	0	CS2143	Nil	5	Click here to enter text.

S.#	Code	Course Title	Status	Section	Hidden Sec.	Pre-Req.	Co-Req.	Semester	Remarks
37.	CS3433	Parallel and Distributed Computing	Core	3	0	CS2523	Nil	6	Click here to enter text.
38.	CS4813	Artificial Intelligence	Core	3	0	CS3163	CS4811	6	Click here to enter text.
39.	CS4811	Artificial Intelligence Lab	Core	3	0	CS3163	CS4813	6	Click here to enter text.
40.	CS3833	Theory of Programming Languages	CS Supporting	3	0	CS3613	Nil	6	Click here to enter text.
41.	CS3193	Web Application Development	Elective	3	0	CS2313	Nil	6	Click here to enter text.
42.	CS4883	Introduction to Data Science	Elective	3	0	CS2313	Nil	6	Click here to enter text.
43.	ACCS3003	Financial Accounting-I	Uni. Elective	3	0	MTCS1013	Nil	6	Click here to enter text.
44.	CS4623	Compiler Construction	Core	3	0	CS3613	Nil	7	Click here to enter text.
45.	CS4912	Design Project (Part-I)	Core	1	0	CS2223	Nil	7	Click here to enter text.
46.	CS4563	Introduction to Digital Image Processing	Elective	2	0	CS2053	Nil	7	Click here to enter text.
47.	HMCS2013	Professional Ethics and Legal Issues	G. Edu	3	0	Nil	Nil	7	Click here to enter text.
48.	MGCS4003	Entrepreneurship and Innovation	Uni Elective	3	0	Nil	Nil	7	Click here to enter text.
49.	CS4573	Blockchain Technology	Elective	3	0	CS1133	Nil	7	Click here to enter text.
50.	CS4893	Penetration Testing	Elective	3	0	CS1133	Nil	8	Click here to enter text.
51.	CS4924	Design Project (Part-II)	Core	1	0	CS4912	Nil	8	Click here to enter

S.#	Code	Course Title	Status	Section	Hidden Sec.	Pre-Req.	Co-Req.	Semester	Remarks
									text.
52.	HMCS1033	Personal Management and Grooming	G. Edu	3	0	Nil	Nil	8	Click here to enter text.
53.	CS5113	Advanced Theory of Computation	Core	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)
54.	CS5413	Advanced Computer Architecture	Core	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)
55.	CS5783	Advanced Cryptography	Elective	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)
56.	CS6333	Advanced Data Mining	Elective	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)
57.	CS6553/AI6553	Knowledge Graph based Systems	Elective	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)
58.	CS6723	Mobile and Wireless Networks	Elective	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)
59.	AI5823	Applied Artificial Intelligence	Elective	1	0	Nil	Nil	Any	Shared with MS(AI)& MS(EE)