

**Course Offering**  
**Semester: Spring 2020**  
**Program:BS Computer Science**

S.#	Code	Course Title	Status	Section	Pre-Req.	Co-Req.	Semester	Remarks
1.	CS1133	Introduction to Programming	Core	2	Nil	CS1131	1	Click here to enter text.
2.	CS1131	Introduction to Programming Lab	Core	3	Nil	CS1133	1	Click here to enter text.
3.	HMCS1002	Pakistan Studies	G. Edu	2	Nil	Nil	1	Click here to enter text.
4.	HMCS1013	English-1	G. Edu	2	Nil	Nil	1	Click here to enter text.
5.	MTCS1013	Calculus and Analytical Geometry	Maths& Sci.	2	Nil	Nil	1	Click here to enter text.
6.	PHCS1013	Applied Physics	Maths& Sci.	2	Nil	Nil	1	Click here to enter text.
7.	CS1143	Object Oriented Programming	Core	3	CS1133	CS1141	2	Click here to enter text.
8.	CS1141	Object Oriented Programming Lab	Core	4	CS1131	CS1143	2	Click here to enter text.
9.	HMCS1012	Islamic Studies/Ethics	G. Edu	3	Nil	Nil	2	Click here to enter text.
10.	HMCS1023	English-II	G. Edu	3	HMCS1013	Nil	2	Click here to enter text.
11.	HMCS2063	Introduction to Sociology	Uni. Elective	2	Nil	Nil	2	Click here to enter text.
12.	HMCS2053	Introduction to Psychology	Uni. Elective	1	Nil	Nil	2	Click here to enter text.
13.	CS2053	Discrete Structures	Core	3	Nil	Nil	2	Click here to enter text.
14.	MTCS1033	Linear Algebra	Maths& Sci.	3	MTCS1013	Nil	2	Click here to enter text.
15.	HMCS2033	Technical Report Writing	G. Edu	2	HMCS1013	Nil	3	Click here to enter text.
16.	HMCS2213	Chinese Language	Uni. Elective	1	Nil	Nil	3	Click here to enter text.

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17.	HMCS2223	French Language	Uni. Elective	1	Nil	Nil	3	Click here to enter text.
18.	CS2313	Introduction to Database Systems	Core	2	CS1133	CS2311	3	Click here to enter text.
19.	CS2311	Introduction to Database Systems Lab	Core	2	CS1131	CS2313	3	Click here to enter text.
20.	CS2143	Data Structures	Core	2	CS1143	CS2141	3	Click here to enter text.
21.	CS2141	Data Structures Lab	Core	2	CS1141	CS2143	3	Click here to enter text.
22.	MTCS3063	Probability & Statistics	Maths& Sci.	2	MTCS1013	Nil	3	Click here to enter text.
23.	CS2513	Digital Logic Design	Core	3	Nil	CS2511	4	Click here to enter text.
24.	CS2511	Digital Logic Design Lab	Core	5	Nil	CS2513	4	Click here to enter text.
25.	CS2223	Software Engineering-I	Core	3	CS1143	Nil	4	Click here to enter text.
26.	CS3073	Numerical Computing	CS Supporting	3	CS1133	Nil	4	Click here to enter text.
27.	CS3413	Operating Systems	Core	3	CS2143	CS3411	4	Click here to enter text.
28.	CS3411	Operating Systems Lab	Core	4	CS2141	CS3413	4	Click here to enter text.
29.	CS3773	Computer Comm. and Networks	Core	3	CS1133	Nil	4	Click here to enter text.
30.	CS3771	Computer Comm. and Networks Lab	Core	4	CS1131	CS3773	4	Click here to enter text.
31.	CS3163	Design and Analysis of Algorithms	Core	1	CS2143	Nil	5	Click here to enter text.
32.	CS2523	Computer Organization & Assembly Language	Core	1	CS1133	CS2521	5	Click here to enter text.
33.	CS2521	Computer Organization & Assembly Language Lab	Core	2	CS1131	CS2523	5	Click here to enter text.
34.	CS3713	Introduction to Information Security and Forensics	Core	1	CS1133	Nil	5	Click here to enter text.
35.	CS3283	Graph Algorithms	CS Supporting	1	CS2053	Nil	5	Click here to enter text.
36.	CS3613	Theory of Automata & Formal Lang.	Core	3	CS2053	Nil	5	Click here to enter text.

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37.	CS3613	Theory of Automata & Formal Lang.	Core	0	CS2053	Nil	6	Shared With Semester 5.
38.	CS3213	Object Oriented Analysis and Design	Core	2	CS2223	Nil	6	Click here to enter text.
39.	CS3272	Human Computer Interaction	Core	2	CS2223	CS3271	6	Click here to enter text.
40.	CS3271	Human Computer Interaction Lab	Core	3	CS2223	CS3272	6	Click here to enter text.
41.	CS3193	Web Application Development	Elective	2	CS1133	CS3191	6	Click here to enter text.
42.	CS3191	Web Application Development Lab	Elective	3	CS1131	CS3193	6	Click here to enter text.
43.	CS4883	Introduction to Data Science	Elective	1	MTCS3063	Nil	6	Click here to enter text.
44.	CS3843	Data Security and Cryptography	Elective	1	MTCS1033	Nil	6	Click here to enter text.
45.	CS4333	Introduction to Data Warehouse	Elective	1	CS2313	Nil	6	Click here to enter text.
46.	ACCS2003	Principles of Accounting-I	G. Edu	1	Nil	Nil	7	Click here to enter text.
47.	CS4622	Compiler Construction	Core	1	CS3613 CS2143	CS3191	7	Click here to enter text.
48.	CS4621	Compiler Construction Lab	Core	1	CS2141	Nil	7	Click here to enter text.
49.	CS4912	Design Project (Part-I)	D. Project	1	CS3213	Nil	7	Click here to enter text.
50.	CS4613	Machine Learning	Elective	1	CS1133 MTCS3063	Nil	7	Click here to enter text.
51.	CS4193	Mobile Application Development	Elective	1	CS1133	CS4191	7	Click here to enter text.
52.	CS4191	Mobile Application Development Lab	Elective	1	CS1131	Nil	7	Click here to enter text.
53.	CS4812	Artificial Intelligence	Core	1	CS2143	CS4811	7	Click here to enter text.
54.	CS4811	Artificial Intelligence Lab	Core	1	CS2141	CS4812	7	Click here to enter text.
55.	CS4863	Web Security and Forensics	Elective	1	CS1133	Nil	8	Click here to enter text.
56.	CS4743	Internet of the Things	Elective	1	Nil	Nil	8	Click here to enter text.
57.	CS4924	Design Project (Part-II)	D. Project	1	CS4912	Nil	8	Click here to enter text.
58.	MGCS1003	Introduction to Management	G. Edu	2	Nil	Nil	8	Click here to enter text.

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59.	CS4573	Blockchain Technology	Elective	1	CS3773	Nil	8	<a href="#">Click here to enter text.</a>
60.	CS3183	Enterprise Application Development	Elective	1	CS1133	Nil	8	<a href="#">Click here to enter text.</a>
61.	CS3181	Enterprise Application Development Lab	Elective	1	CS1131	Nil	8	<a href="#">Click here to enter text.</a>