

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
TEZPUR UNIVERSITY**

Offered Courses for new batches, Autumn 2020

The following are the courses being offered by the Department of Computer Science & Engineering, in the Autumn Semester 2020, for new batches (1st semester) of Ph.D., M.Tech(IT), M. Tech(CSE), MCA and B.Tech. programmes.

MCA 1 st Semester						
Course Code	Course Title	Credit Structure			Credit	Course Type
		L	T	P		
CS404	Programming and Problem Solving	3	1	1	5	Core
CS405	Discrete Mathematics	2	1	0	3	Core
CS408	Data Structures	3	0	1	4	Core
CS312	OO programming & Data Structures Lab.	0	0	2	2	Core
EF103	Communication Skills (non-credit)	2	0	1	0	Audit
XXXXX	Elective-1	3	0	1	3	Elect.
XXXXX	Elective-2				3	Elect.
XXXXX	Elective-3				3	Elect.
		Total			18	
	Choose Elective-1 from the following two courses					
CS320	Probability & Statistics	2	1	0	3	Elect.
CS204	Mathematical Foundation	3	0	0	3	Elect.
	Choose Elective-2 from the following two courses					
CS422	Numerical Methods	2	0	1	3	Elect.
CS305	Internet Concepts and Web Technology	2	1	0	3	Elect.
	Choose Elective-3 from the following two courses					
CS421	Graph Theory	3	0	0	3	Elect.
CS424	Formal Language & Automata	3	0	0	3	Elect.
	Bridge Courses (Compusory for students without Computer Science background. B. SC(CS), B.Sc(IT), BCA students need not register these courses)					
CS309	Computing fundamentals	2	0	1	0	Audit
CS410	Computer organization	2	1	0	0	Audit
M.Tech. (IT) 1 st Semester						
CS531	Object Oriented Programming & Design	3	1	1	5	Core
CS601	Design and Analysis of Algorithms	3	0	0	3	Core
CS634	Selected Topics in Computer Networks	3	0	1	4	Core
CS543	Advanced Programming Lab I	0	1	2	3	Core
XXXXX	Elective 1				3	Elect.

XXXXX	Elective 2				3	Elect.
		Total			21	
	Choose two Electives from the following list.					
IT510	Advanced Operating Systems	3	0	1	4	Elect.
CS525	Artificial Intelligence	3	0	0	3	Elect.
CS541	Mathematical Foundation for Computer Science	3	1	0	4	Elect.
CS538	Computational Geometry	3	0	0	3	Elect.
CS606	Computer Architecture & Parallel Processing	3	0	0	3	Elect.
CS6XX	Fundamentals of Speech Processing	3	0	1	4	Elect.
M.Tech. (CSE) 1 st Semester						
CS541	Mathematical Foundation for Computer Science	3	1	0	4	Core
CS634	Selected Topics in Computer Networks	3	0	1	4	Core
CS542	Advanced Algorithms and Data Structures	2	1	0	3	Core
CS543	Advanced Programming Lab I	0	1	2	3	Core
IT510	Advanced Operating Systems	3	0	1	4	Core
		Total			18	
Ph.D. 1 st Semester						
CS704	Doctoral Research Methodology	4	0	0	4	Core
CS701	Algorithms and Complexity	4	0	0	4	Core
XXXXX	Research area based Elective I				3/4	Elect.
XXXXX	Research area based Elective II				2/3/4	Elect.
XXXXX	Research area based Elective III (Not required if total credit already becomes 16)				2/3/4	Elect.
		Total			16/17/18	
	Choose 2/3 Electives from the following list. (the 3 rd elective is required if total credit of the four courses selected become less than 16). (Minimum total credit should be 16)					
CS731	Data Mining in Security	4	0	0	4	Elect.
CS6XX	Fundamentals of Speech Processing	3	0	1	4	Elect.
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	Elect
CS538	Computational Geometry	3	0	0	3	Elect.
CS4602	Image Processing	3	0	0	3	Elect.
CS610	Bioinformatics	3	0	0	3	Elect.
B. Tech. (CSE) 1 st semester						
CH103	Chemistry	3	0	1	4	Core
PH103	Physics-I	2	0	1	3	Core
MS104	Mathematics-I	3	1	0	4	Core
EE103	Basic Electrical Engineering	3	0	0	3	Core

EE104	Basic Electrical Engineering Lab	0	0	1	1	Core
EF103	Communicative English	2	0	1	3	Core
SE100	Induction Program	-	-	-	-	-
		Total			18	

(B. Borah)
Head, CSE