DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
TEZPUR UNIVERSITY
Napaam – 784028 :: Sonitpur – Assam

Date: 01/01/2025

The following are the courses being offered for Ph.D., M.Tech(CSE), M.Tech(IT),M.Tech(DS), MCA and B.Tech. Programmes in the department of Computer Science & Engineering for Spring Semester 2025 . In addition, the students shall have to take CBCT/Open Elective courses as applicable. Programme Elective / Open Elective courses can be selected from MOOCs courses with maximum limit of 20% of Total Credits.

Offered Courses - Spring 2025

M. Tech. (CSE) 2nd Semester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
CS606	Computer Architecture and Parallel Processing	3	0	0	3	Core
CS544	Advanced Programming Lab II	0	1	2	3	Core
CS545	Seminar	0	2	0	2	Core
XXXXX	Elective I				3/4	
XXXXX	Elective II				3/4	
XXXXX	Open Elective-I	3	0	0	3	
		Total Credits			17/19	
Choose Elective-I and Elective-II from following groups of electives or from MOOCs list given below. (Not more than one course from one group)						
	Group-1					
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elective
IT517	Pattern Recognition	3	0	1	4	Elective
CS607	Optimization Techniques	3	0	0	3	Elective
	Group-2					
CS731	Data Mining in Security	4	0	0	4	Elective
IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
CS625	Web Technology	3	0	1	4	Elective
CS529	Embedded Systems	3	0	1	4	Elective
	Group-3					
IT610	Advanced Database System	3	0	1	4	Elective

M.Tech.(CSE) 4th Semester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
CS641	Term Project II	0	0	16	16	Core
XXXXX	Open Elective (If two OEs are not completed)	0	0	3	3	Open Elective
XXXXX	Elective (MOOC courses if required)					Elective
M.Tech.(IT) 4th Semester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
IT605	Term Project II	0	0	0	16	Core
XXXXX	Open Elective (If two OEs are not completed)	0	0	3	3	Open Elective
XXXXX	Elective (MOOC courses if required)					Elective
M.Tech.(Data Sciences) 2nd Semester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
IT610	Advanced Database Systems	3	0	1	4	Core
CS622	Machine Learning	3	0	0	3	Core
CS600	Laboratory 2 - Data Analytics & Visualization	0	0	2	2	Core
CS617	Mini Project with Seminar	1	0	4	4	Core
	Audit Course	1	0	0	0	Audit
	Program Elective III				4	Elective
	Program Elective IV				3	Elective
	Total Credits				20	
Choose Elective-IIIfrom following groupof electives or from MOOCs list given below.						
CS619	Computational Biology & Bioinformatics	3	0	1	4	Elective
CS731	Data Mining in Security	3	0	1	4	Elective
Choose Elective-IV from following group of electives or from MOOCs list given below.						
CS629	Information Retrieval	3	0	0	3	Elective
CS606	Computer Architecture and Parallel Processing	3	0	0	3	Elective
MCA 2nd Semester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
IC361	Accounting and Financial Management	3	0	0	3	Core
CS413	Database Management Systems	3	0	0	3	Core
CS414	Database Management Systems Lab	0	0	2	2	Core

CS417	Operating Systems	3	0	0	3	Core
CS418	Operating Systems Lab	0	1	1	2	Core
XXXXX	Elective-4				3/4	Elective
XXXXX	Elective-5				3/4	Elective
XXXXX	Open Elective-I	3	0	0	3	Open Elective
		Total Credits			22/24	
Choose Elective-IV and Elective-V from following groups of electives or from MOOCs list given below. (Not more than one course from one group)						
	Group-1					
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elective
IT517	Pattern Recognition	3	0	1	4	Elective
CS607	Optimization Techniques	3	0	0	3	Elective
	Group-2					
IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
CS625	Web Technology	3	0	1	4	Elective
CS529	Embedded Systems	3	0	1	4	Elective
CS601	Design and Analysis of Algorithms	4	0	0	4	Elective
MCA 4th Semester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
CS515	Major Project	0	0	16	16	Core
XXXXX	Open Elective (If two OEs are not completed)	0	0	3	3	Open Elective
XXXXX	Elective-6 (for 2-year MCA students and will be takenfrom MOOCS)					Elective
B.Tech. 2ndSemester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
CSBT100	Programming for Problem Solving	2	0	0	2	Core
CSBT101	Programming Lab	0	0	2	2	Core
B.Tech. 4th Semester						
BT201	Biology	3	0	0	3	
CO206	Design and Analysis of Algorithms	3	0	1	4	Core
CO214	Computer Architecture and Organization	3	1	0	4	Core
CO215	Computer Organization Lab	0	0	1	1	Core
CO216	Formal Language & Automata	3	0	0	3	Core
CO217	Graph Theory	3	0	0	3	Core
CO218	Data Communication	3	0	0	3	Core
NS102	National Service Scheme	0	0	2	2	

		Total Credits	23			
CS201	Data Structure & Operating System **(Non CSE)**	2	0	1	3	Core
B.Tech. 6th Semester						
CO314	System Software and Compiler Design	3	0	1	4	Core
CO315	Computer Networks	3	0	0	3	Core
CO316	Computer Networks Lab	0	0	1	1	Core
CO317	Project-I (using SE perspective)	0	0	2	2	Core
IC361	Accounting and Financial Management	3	0	0	3	Core
	Elective-II	3	0	1	4	
	Open Elective-II	3	0	0	3	Open Elective
		Total Credits	20			
	Choose Elective II from the following list or from MOOCs list given below					
CO423	Web Technology	3	0	1	4	Elective
CO525	Data Mining	3	0	1	4	Elective
CO306	Embedded Systems	3	0	1	4	Elective
B.Tech. 8th Semester						
CO403	Project-III	0	0	8	8	Core
XXXXX	Open Elective-IV	3	0	0	3	Open Elective
XXXXX	Elective-V	3	0	0	3	Elective
	Choose Elective V from the list below or from MOOCS					
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elective
CO423	Web Technology	3	0	1	4	Elective
CO525	Data Mining	3	0	1	4	Elective
OPEN ELECTIVES/CBCT(For other departments)						
CS535	Introduction to Scientific Computing	2	0	1	3	Open Elective
Ph. D.1stSemester						
Course Code	**Course Title**	**Credit Structure**			**Course Credit**	**Course Type**
		L	**T**	**P**		
CS704	Doctoral Research Methodology	4	0	0	4	Core
Choose area specific Electives from following groups of electives or from MOOCs list given below. (Not more than one course from one group)						
	Group-1					
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elective
IT517	Pattern Recognition	3	0	1	4	Elective
CS607	Optimization Techniques	3	0	0	3	Elective
	Group-2					
CS731	Data Mining in Security	4	0	0	4	Elective

IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
	Group-3					
CS606	Computer Architecture and Parallel Processing	3	0	0	3	Elective

MOOCs Courses (Elective)

(Maximum allowed is 20% of total credits)

Course Code(TU)	Course Name	UG/PG	Duration	Credit
CS654	Programming, Data Structures and Algorithms Using Python	UG	8 Weeks	2
CS658	Social Networks	UG	12 Weeks	3
CS660	Programming In Java	UG	12 Weeks	3
CS661	Data Science for Engineers	UG/PG	8 Weeks	2
CS667	Introduction To Soft Computing	UG/PG	8 Weeks	2
CS669	Introduction To Industry 4.0 And Industrial Internet Of Things	PG	12 Weeks	3
CS671	Reinforcement Learning	UG/PG	12 Weeks	3
CS677	Introduction to Machine Learning	UG/PG	12 Weeks	3
CS681	GPU Architectures And Programming	UG/PG	12 Weeks	3
CS683	Data Analytics with Python	UG/PG	12 Weeks	3
CS684	Cloud Computing and Distributed Systems	UG/PG	8 Weeks	2
CS678	The Joy of Computing Using Python	UG/PG	12 Weeks	3
FE674	Blockchain and its Applications	UG/PG	12 Weeks	3
CS670	Deep Learning	UG/PG	12 Weeks	3

MOOCs Courses (Open Elective)

Course Code(TU)	Course Name	UG/PG	Duration	Credit
CE586	Strategies for Sustainable Design	UG/PG	12 Weeks	3
CE593	Finite Element Method	UG/PG	12 Weeks	3
CE594	Geographic Information Systems	UG/PG	12 Weeks	3
CE595	Groundwater hydrology and management	UG	12 Weeks	3
EE683	Usability Engineering	UG/PG	12 Weeks	3
EE684	Biomass Conversion And Biorefinery	UG/PG	12 Weeks	3
FE670	Membrane Technology	UG/PG	12 Weeks	3
FE671	Aspen Plus® Simulation Software - A Basic Course For Beginners	UG/PG	12 Weeks	3
FE672	Matlab Programming for Numerical Computation	UG/PG	12 Weeks	3
FE675	Intellectual Property	UG/PG	12 Weeks	3
FE676	Understanding Incubation and Entrepreneurship	UG	12 Weeks	3

FE677	Computer Vision And Image Processing - Fundamentals And Applications	UG/PG	12 Weeks	3
ME468	Computer Integrated Manufacturing	UG/PG	12 Weeks	3
ME469	Industrial Automation And Control	UG/PG	12 Weeks	3
ME472	Entrepreneurship Essentials	UG/PG	12 Weeks	3
ME576	Quality Design And Control	UG/PG	12 Weeks	3
ME578	Product Design and Manufacturing	UG/PG	12 Weeks	3

(S. Saharia)

HoD, CSE