

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

Date: 01/01/2024

The following are the courses being offered for Ph.D., M.Tech(CSE), M.Tech(IT), MCA and B.Tech. Programmes in the department of Computer Science & Engineering for Spring Semester 2024. In addition, the students shall have to take CBCT/Open Elective courses as applicable. Elective courses can be selected from MOOCs courses with maximum limit of 20% of Total Credits.

Offered Courses - Spring 2024

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
	Group-2					
CS607	Optimization Techniques	3	0	0	3	Elective
IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
CS625	Web Technology	3	0	1	4	Elective
	Group-3					
CS731	Data Mining in Security	4	0	0	4	Elective
CS529	Embedded Systems	3	0	1	4	Elective
	Group-4					
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) 2nd Semester						
Course Code	Course Title	Credit Structure			Course Credit	Course Type
		L	T	P		
IT610	Advanced Database System	3	0	1	4	Core
CS545	Seminar	0	2	0	2	Core
XXXXX	Elective-II				3/4	Elective
XXXXX	Elective-III				3/4	Elective
XXXXX	Elective-IV				3/4	Elective
XXXXX	Open Elective-II	3	0	0	3	Open Elective
		Total Credits			18/21	
Choose Elective-II, Elective-III and Elective-IV from following groups 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
	Group-2					
CS607	Optimization Techniques	3	0	0	3	Elective
IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
CS625	Web Technology	3	0	1	4	Elective
	Group-3					
CS731	Data Mining in Security	4	0	0	4	Elective
CS529	Embedded Systems	3	0	1	4	Elective
	Group-4					
CS606	Computer Architecture and Parallel Processing	3	0	0	3	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
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-3 / Elective-4				3/4	Elective
XXXXX	Elective-4 / 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
Group-2						
CS607	Optimization Techniques	3	0	0	3	Elective
IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
CS625	Web Technology	3	0	1	4	Elective
Group-3						
CS601	Design and Analysis of Algorithms	4	0	0	4	Elective
CS529	Embedded Systems	3	0	1	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 (MOOC courses if required)					Elective
B. Tech. 2nd Semester						
Course Code	Course Title	Credit Structure			Course Credit	Course Type
		L	T	P		
CO103	Introductory Computing	2	1	0	3	Core
CO104	Computing Lab	0	0	2	2	Core
CO105	Discrete Mathematics	3	1	0	4	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
CT465	Essence of Indian Traditional Knowledge					Audit
	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 CS Elective V from the list below or from MOOCs						
CO503	Fuzzy Logic and Neural Networks (Classes will be held at afternoon Open Elective slot)	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
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Open Elective
Ph. D. 2nd Semester						
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
Group-2						
CS607	Optimization Techniques	3	0	0	3	Elective
IT509	Data Mining & Data Warehousing	3	0	1	4	Elective
Group-3						
CS731	Data Mining in Security	4	0	0	4	Elective
Group-4						
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	Course ID	SME Name	Institute	UG/PG	Duration	Credit
CS654	Programming, Data Structures And Algorithms Using Python	noc24-cs45	Prof. Madhavan Mukund	CMI	UG	8 Weeks	2
CS658	Social Networks	noc24-cs56	Prof. Sudarshan Iyengar Prof. Yayati Gupta	IIT Ropar	UG	12 Weeks	3
CS660	Programming In Java	noc24-cs43	Prof. Debasis Samanta	IITKGP	UG	12 Weeks	3
CS661	Data Science for Engineers	noc24-cs53	Prof. Rangunathan Rengasamy Prof. Shankar Narasimhan	IITM	UG/PG	8 Weeks	2
CS662	Machine Learning for Engineering and science applications	noc24-cs38	Prof. Balaji Srinivasan and Prof. Ganapathy	IITM	UG/PG	12 Weeks	3
CS666	Embedded System Design with ARM	noc24-cs24	Prof. Indranil Sengupta Prof. Kamalika Datta	IITKGP	UG	8 Weeks	2
CS667	Introduction To Soft Computing	noc24-cs37	Prof. Debasis Samanta	IITKGP	UG/PG	8 Weeks	2
CS669	Introduction To Industry 4.0 And Industrial Internet Of Things	noc24-cs34	Prof. Sudip Misra	IITKGP	PG	12 Weeks	3
CS671	Reinforcement Learning	noc24-cs52	Prof. Balaraman Ravindran	IITM	UG/PG	12 Weeks	3
CS677	Introduction to Machine Learning	noc24-cs51	Prof. Balaraman Ravindran	IITM	UG/PG	12 Weeks	3

CS681	GPU Architectures And Programming	noc24-cs30	Prof. Soumyajit Dey	IITKGP	UG/PG	12 Weeks	3
CS683	Data Analytics with Python	noc24-cs20	Prof. A Ramesh	IITR	UG/PG	12 Weeks	3
CS684	Cloud Computing and Distributed Systems	noc24-cs09	Prof. Rajiv Misra	IITK	UG/PG	8 Weeks	2
EC431	The Joy of Computing using Python	noc24-cs57	Prof. Sudarshan Iyengar	IIT Ropar	UG/PG	12 Weeks	3
EC441	Machine Learning, ML	noc24-cs60	Prof. Carl Gustaf Jansson	KTH Royal Institute of Technology, Sweden	PG	8 Weeks	2
EC442	Embedded Systems Design	noc24-cs25	Prof. Anupam Basu	IITKGP	UG	12 Weeks	3
FE674	Blockchain and its Applications	noc24-cs15	Prof. Sandip Chakraborty Prof. Shamik Sural	IITKGP	UG/PG	12 Weeks	3
CS670	Deep Learning	noc24-ee04	Prof. Prabir Kumar Biswas	IITKGP	UG/PG	12 Weeks	3

MOOCs Courses (Open Elective)

Course Code(TU)	Course Name	Course ID	SME Name	Institute	UG/PG	Duration	Credit
CE586	Strategies for Sustainable Design	noc24-de01	Prof. Shiva Ji	IIT Hyderabad	UG/PG	12 Weeks	3
CE593	Finite Element Method	noc24-ce13	Prof. Biswanath Banerjee Prof. Amit Shaw	IITKGP	UG/PG	12 Weeks	3
CE594	Geographic Information Systems	noc24-ce14	Prof. Arun K. Saraf	IITR	UG/PG	12 Weeks	3
CE595	Groundwater hydrology and management	noc24-ge18	Prof. Pennan Chinnasamy	IITB	UG	12 Weeks	3
EE683	Usability Engineering	noc24-de07	Prof. Debayan Dhar	IITG	UG/PG	12 Weeks	3
EE684	Biomass Conversion And Biorefinery	noc24-ch07	Prof. Kaustubha Mohanty	IITG	UG/PG	12 Weeks	3
FE670	Membrane Technology	noc24-ch18	Prof. Kaustubha Mohanty	IITG	UG/PG	12 Weeks	3
FE671	Aspen Plus® Simulation Software - A Basic Course For Beginners	noc24-ch04	Prof. Prabirkumar Saha	IITG	UG/PG	12 Weeks	3
FE672	Matlab Programming for Numerical Computation	noc24-ch36	Prof. Niket Kaisare	IITM	UG/PG	12 Weeks	3
FE675	Intellectual Property	noc24-hs38	Prof. Feroz Ali	IITM	UG/PG	12 Weeks	3
FE676	Understanding Incubation and Entrepreneurship	noc24-de06	Prof. B. K. Chakravarthy	IITB	UG	12 Weeks	3
FE677	Computer Vision And Image Processing - Fundamentals And Applications	noc24-ee38	Prof. M. K. Bhuyan	IITG	UG/PG	12 Weeks	3

ME468	Computer Integrated Manufacturing	noc24-me27	Prof. J. Ramkumar Prof. Amandeep Singh	IITK	UG/PG	12 Weeks	3
ME469	Industrial Automation And Control	noc24-ee56	Prof. Alokanti Deb	IITKGP	UG/PG	12 Weeks	3
ME472	Entrepreneurship Essentials	noc24-ge15	Prof. Manoj Kumar Mondal	IITKGP	UG/PG	12 Weeks	3
ME576	Quality Design And Control	noc24-mg50	Prof. Pradip Kumar Ray	IITKGP	UG/PG	12 Weeks	3
ME578	Product Design and Manufacturing	noc24-me58	Prof. J.Ramkumar Prof. Amandeep Singh	IITK	UG/PG	12 Weeks	3

(S. Saharia)

HoD, CSE