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

Date: 08/03/2022

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 2022. 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 2022)

Corse Code	Title	Credit Structure			Credit	Course Type	Course Instructor
		L	T	P			
CS606	Computer Architecture and Parallel Processing	3	0	0	3	Core	NS
CS544	Advanced Programming Lab II	0	1	2	3	Core	SK
CS545	Seminar	0	2	0	2	Core	RCB
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 II from the following list or from MOOCs list given below						
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elect	BB
IT517	Pattern Recognition	3	0	1	4	Elect	SS
CS529	Embedded Systems	3	0	1	4	Elect	SN
CS607	Optimization Techniques	3	0	0	3	Elect	BN
IT610	Advanced Database System	3	0	1	4	Elect	SIS
CS625	Web Technology	3	0	1	4	Elect	DB
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	Elect	NM
CS731	Data Mining in Security	4	0	0	4	Elect.	DKB

The table above is under the heading **M.Tech(CSE) 2nd Semester**.

M.Tech(IT) 2nd Semester

Corse Code	Title	L	T	P	Credit	Course Type	Course Instructor
IT610	Advanced Database System	3	0	1	4	Core	SIS
CS545	Seminar	0	2	0	2	Core	HB
XXXXX	**Elective 2**	3	0	0	3/4		
XXXXX	**Elective 3**	3	0	0	3/4		
XXXXX	**Elective 4**	3	0	0	3/4		
XXXXX	**Open Elective 2**				3		
		Total Credits			18/21		
	Choose Elective 2, 3, 4 from following list or from MOOCs list given below						
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elect	BB
IT517	Pattern Recognition	3	0	1	4	Elect	SS
CS529	Embedded Systems	3	0	1	4	Elect	SN
CS606	Computer Architecture and Parallel Processing	3	0	0	3	Elect	NS
CS607	Optimization Techniques	3	0	0	3	Elect	BN
CS625	Web Technology	3	0	1	4	Elect	DB
CS638	Software Defined Networking & Network	3	0	0	3	Elect	NM

	Function Virtualization						
CS731	Data Mining in Security	4	0	0	4	Elect.	DKB

M.Tech.(CSE) 4th Semester

CS641	Term Project II	0	0	16	16	Core	
XXXXX	Open Elective (If two OEs are not completed)	0	0	3	3	OE	
XXXXX	Elective (MOOC courses if required)					Elect.	

M.Tech.(IT) 4th Semester

IT605	Term Project II	0	0	0	16	Core	
XXXXX	Open Elective (If two OEs are not completed)	0	0	3	3	OE	
XXXXX	Elective (MOOC courses if required)					Elect.	

MCA Bridge Semester II

CO208	Object Oriented Programming	3	0	1	4	Audit	SIS
CO214	Computer Architecture and Organization	3	1	0	4	Audit	HB
CO215	Computer Organization Lab	0	0	1	1	Audit	HB
CO218	Data Communication	3	0	0	3	Audit	DKS
CS305	Internet Concepts and Web Technology	2	1	0	3	Audit	FIF

MCA 2nd Semester

IC361	Accounting and Financial Management	3	0	0	3	Core	
CS413	Database Management Systems	3	0	0	3	Core	SS
CS414	Database Management Systems Lab	0	0	2	2	Core	RCB
CS417	Operating Systems	3	0	0	3	Core	SKD
CS418	Operating Systems Lab	0	1	1	2	Core	MD
XXXXX	**Elective 4**				3/4	Elect.	
XXXXX	**Elective 5**				3/4	Elect.	
XXXXX	**Open Elective 1**	3	0	0	3	Elect.	
		Total Credits			**18/20**		
	Choose Elective 4, 5 from the following list or from MOOCs list given below						
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elect.	BB
IT509	Data Mining & Data Warehousing	3	0	1	4	Elect.	RS
IT517	Pattern Recognition	3	0	1	4	Elect.	SS
CS529	Embedded Systems	3	0	1	4	Elect.	SN
CS607	Optimization Techniques	3	0	0	3	Elect.	BN
CS625	Web Technology	3	0	1	4	Elect.	DB
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	Elect.	NM
CS601	Design and Analysis of Algorithms	3	0	0	3	Elect	AK

MCA 4th Semester

CS515	Major Project	0	0	16	16	Core	
CS510	Minor Project (Backlog)	0	0	5	5	Core	
XXXXX	Open Elective (If two OEs are not completed)	0	0	3	3	OE	
XXXXX	Elective (MOOC courses if required)					Elect.	

MCA 6th Semester

CS515	Major Project	0	0	16	16	Core	
XXXXX	Open Elective (If three OEs are not completed)	0	0	3	3	OE	

XXXXX	Elective (MOOC courses if required)					Elect.	

B.Tech. 4th Semester

BT201	Biology	3	0	0	3	Core	
CO206	Design and Analysis of Algorithms	3	0	1	4	Core	AK
CO214	Computer Architecture and Organization	3	1	0	4	Core	DKS
CO215	Computer Organization Lab	0	0	1	1	Core	RCB
CO216	Formal Language & Automata	3	0	0	3	Core	SKS
CO217	Graph Theory	3	0	0	3	Core	AK
CO218	Data Communication	3	0	0	3	Core	SKD
ME103	Workshop Practice (Backlog)	0	0	2	2	Core	
NS102	National Service Scheme	0	0	2	2	Elect.	
		Total Credits			**25**		
CS201	Data Structure & Operating System (**Non CSE**)	2	0	1	3	Core	LBS

B.Tech. 6th Semester

CO314	System Software and Compiler Design	3	0	1	4	Core	US
CO315	Computer Networks	3	0	0	3	Core	NM
CO316	Computer Networks Lab	0	0	1	1	Core	NM
CO317	Project-I (using SE perspective)	0	0	2	2	Core	SIS
IC361	Accounting and Financial Management	3	0	0	3	Core	
CT465	Indian Traditional Knowledge					Audit	
EC102	Basic Electronics (Backlog)	2	1	1	4	Core	
	Elective-II	3	0	1	4	Elect.	
	Open Elective-II	3	0	0	3	OE	
		Total Credits			**24**		
Choose Elective II from the following list or from MOOCs list given below)							
CO423	Web Technology	3	0	1	4	Elect.	DB
CO525	Data Mining	3	0	1	4	Elect.	RS
CO306	Embedded Systems	3	0	1	4	Elect.	SN

B.Tech. 8th Semester

CO403	Project-III	0	0	8	8	core	
CT465	Essence of Indian Traditional Knowledge					Audit	
CO405	Comprehensive Written Exam					Audit	
XXXXX	Open Elective-IV	3	0	0	3	OE	
XXXXX	Elective-V	3	0	0	3	Elect.	
		Total Credits			**14**		
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	Elect.	BB
CO423	Web Technology	3	0	1	4	Elect.	DB
CO525	Data Mining	3	0	1	4	Elect.	RS

B.Tech 2nd Semester

CO103	Introductory Computing	2	1	0	3	Core	US/NS/SP/ SSS/SK
CO104	Computing Lab	0	0	2	2	Core	BN/SSS/LB

							S/MD/RCB
CO105	Discrete Mathematics	3	1	0	4	Core	SP

Ph.D							
CS731	Data Mining in Security	4	0	0	4	Elect.	DKB
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	Elect.	BB
IT517	Pattern Recognition	3	0	1	4	Elect.	SS
CS606	Computer Architecture and Parallel Processing	3	0	0	3	Elect.	NS
CS607	Optimization Techniques	3	0	0	3	Elect.	BN
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	Elect.	NM

OPEN ELECTIVES/CBCT(For other departments)							
CS535	Introduction to Scientific Computing	2	0	1	3	OE	MD
CS535	Introduction to Scientific Computing (2nd semester students only)	2	0	1	3	OE	FIF
CO503	Fuzzy Logic and Neural Networks	3	0	0	3	OE	BB

MOOCs Courses (Elective)
(Maximum allowed is 20% of total credits)

Course code	Course Name & Instructor(s)	Offering Institute	UG/PG	Duration (in Week)	Total Credit
CS653	Introduction to Internet of Things, Prof. Sudip Misra	IITKGP	<u>UG</u>	12	3
CS654	Programming, Data Structures and Algorithms Using Python, Prof. Madhavan Mukund	CMI	UG	8	2
CS657	Cloud Computing, Prof. Soumya Kanti Ghosh	IITKGP	UG	8	2
CS658	Social Networks, Prof. Sudarshan Iyengar, IIT Ropar	IITR	UG	12	3
CS660	Programming in Java, Prof. Debasis Samanta	IITKGP	UG	12	3
CS661	Data Science for Engineers, Prof. Ragunathan Rengasamy and Prof. Shankar Narasimhan	IITM	UG/PG	8	2
CS665	Artificial Intelligence: Knowledge Representation and Reasoning, Prof. Deepak Khemani	IITM	UG/PG	12	3
CS667	Introduction to Soft Computing, Prof. Debasis Samanta	IITKGP	UG/PG	8	2
CS669	Introduction to Industry 4.0 and Industrial Internet of Things, Prof. Sudip Misra, IIT KGP	IITKGP	PG	12	3
CS670	Deep Learning, Prof. Prabir Kumar Biswas	IITKGP	UG/PG	12	3
CS671	Reinforcement Learning, Prof. Balaraman Ravindran, IIT Madras	IITM	UG/PG	12	3
CS672	Ethical Hacking, Prof. Indranil Sengupta	IITKGP	UG/PG	12	3
CS677	Introduction to Machine Learning,	IITM	UG/PG	12	3

	Prof. Balaraman Ravindran				
CS681	GPU Architectures and Programming, Prof. Soumyajit Dey	IITKGP	UG/PG	12	3
CS683	Data Analytics with Python, Prof. A. Ramesh	IITR	UG/PG	12	3
CS684	Cloud Computing and Distributed Systems, Prof. Rajiv Misra	IITP	UG/PG	8	2

(B. Borah)
Head, CSE