

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
TEZPUR UNIVERSITY
Tentative Offered Courses - Autumn 2025

01th July 2025

The following are the courses being offered by the Department of Computer Science & Engineering, in the Autumn Semester, 2025 for Ph.D., M. Tech (CSE), M. Tech (Data Sciences) MCA and B. Tech. programmes. In addition, the students shall have to take Open Elective courses and SWAYAM MOOCs courses as applicable. **Number of MOOCs course taken by each student should not exceed two.**

MCA 1 st Semester							
Course Code	Course Title	Credit Structure			Credit	Course Type	Course Instructor
		L	T	P			
CSMC401	Selected Topics in Computing (*For non-CS background)	4	0	0	0	Audit	
CSMC402	Discrete Mathematics	2	1	0	3	Core	SP
CSMC403	Computer Organization and Architecture	3	1	1	5	Core	SKR
CSMC404	Data Structures	3	1	0	4	Core	SIS
CSMC405	OO Programming and Data Structures Lab	0	1	2	3	Core	LBS
	Elective-I	3	0	0	3	E	
	Elective-II	3	0	0	3	E	
		Total			21		
Choose the Electives from the following groups (Only one elective from one group)							
Elective-I							
CSMC441	Graph Theory	3	0	0	3	E	SS
Elective-II							
CSMC444	Computer Graphics	3	0	1	4	E	RS
CSMC443	Formal Language and Automata	3	0	0	3	E	JT
MCA 3 rd Semester							
EF103	Communicative English	2	0	1	3	Non-credit)	
CS513	Software Engineering	3	0	0	3	Core	
CS518	Software Engineering Lab	0	0	1	1	Core	
CS519	Computer Networks	3	1	0	4	Core	
CS520	Computer Networks Lab	0	0	1	1	Core	
CS510	Minor Project				5	Core	
	Elective-5				3/4	E	
	Open Elective-2				3	OE	
		Total			20		
Choose Elective-5 either from Group-I or Group-II or MOOCs list. Open Elective-2 can be taken from MOOC's Open Elective List.							
Elective-5: Group-I							
CO504	Natural Language Processing	3	0	0	3	E	

CO519	Internet of Things	3	0	1	4	E	
Elective-5: Group-II							
CO513	Fundamentals of Speech Processing	3	0	1	4	E	
CS602	Image Processing	3	0	0	3	E	
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	E	
M. Tech. (Data Sciences) 1 st Semester							
CSMT530	Mathematical Foundations of Data Science	4	0	0	4	Core	
CSMT531	Advanced Algorithms & Data Structures	3	1	0	4	Core	
CSMT505	Research Methodology	2	0	0	2	Core	
CSMT532	Intellectual Property Rights (IPR)	2	0	0	2	Core	
CSMT533	Data Structures and Algorithms Lab	0	0	2	2	Core	
CT465	Essence of Traditional Indian Knowledge	1	0	0	1	Audit Course	
	Program Elective I				4	E	
	Program Elective II				4	E	
		Total			22		
Program Elective I -Choose Elective from the following list.							
CSMT534	Data Science	3	0	1	4	E	
Program Elective II -Choose Elective from the following list.							
CSMT537	Recommender System	3	0	1	4	E	
M. Tech. (Data Sciences) 3 rd Semester							
CS630	Term Project I	0	0	14	14	Core	
CSXXX	Program Elective V				3/4	E	
XXXXX	Open Elective	3	0	0	3	OE	
CT465	Essence of Traditional Indian Knowledge	1	0	0	1	Audit Course	Missed In 1 st Sem
		Total			14		
Program Elective V -Choose Elective from the following list or MOOCs List							
CS636	Computer Vision	3	0	1	4	E	
CS633	Data Analytics for IoT	3	0	1	4	E	
M. Tech. (CSE) 1 st Semester							
CSMT500	Mathematical Foundation for Computer Science	4	0	0	4	Core	
CSMT501	Advanced Algorithms and Data Structures	4	0	0	4	Core	
CSMT503	Advanced Programming Lab I	1	0	2	3	Core	
CSMT504	Advanced Operating Systems	3	0	1	4	Core	
CSMT502	Selected Topics in Computer Networks	3	0	1	4	Core	
		Total			18		

M.Tech. (CSE) 3 rd Semester							
CS640	Term Project I	0	0	8	8	Core	
XXxxx	Elective III				3/4	E	
XXxxx	Elective IV				3/4	E	
XXxxx	Open Elective II				3	OE	
		Total			17-19		
Choose Electives from the following elective Groups (Only one elective from one group) or MOOCs list.							
Group-I (Elective III)							
CO504	Natural Language Processing	3	0	0	3	E	
CO519	Internet of Things	3	0	1	4	E	
CS621	Mobile Computing	4	0	0	4	E	
Group-II (Elective IV)							
CO513	Fundamentals of Speech Processing	3	0	1	4	E	
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	E	
CS602	Image Processing	3	0	0	3	E	
B.Tech. 1 st Semester							
CSBT100	Programming for Problem Solving	2	0	0	2	Core	
CSBT101	Programming Lab	0	0	2	2	Core	
CO104	Computing Lab	0	0	2	2	Core	For Backlog
B.Tech. 3 rd Semester							
CSBT201	Discrete Mathematics	3	1	0	4	Core	
CSBT202	Data structures	3	1	0	4	Core	
CSBT203	Data structures laboratory	0	0	2	2	Core	
CSBT204	Digital Logic Design	3	0	1	4	Core	
CSBT205	IT Workshop (Sci Lab/MATLAB/Python etc.)	1	0	2	3	Core	
APMS200	Mathematics - III	3	0	0	3	Core	
SEEC201	IDEA Lab Workshop	0	0	2	0	Audit Course	
		Total			20		
B.Tech. 5 th Semester							
CO303	Computer Graphics	3	0	1	4	Core	
CO309	Operating Systems	3	0	0	3	Core	
CO310	Operating Systems Lab	0	0	1	1	Core	
CO311	Software Engineering	3	0	0	3	Core	
CO312	Database Systems	3	0	0	3	Core	
CO313	Database Systems Lab	0	1	1	2	Core	
LW301	Indian Constitution	1	0	0	0	Audit	
XXxxx	Elective-I (PEC01)				3	E	

XXxxx	Open Elective-I (OEC01)				3	E	
		Total			22		
Choose Elective-I from the following elective list.							
CO318	Cryptography	3	0	0	3	E	
CO434	Image Processing	3	0	0	3	E	
CO513	Fundamentals of Speech Processing	3	0	1	4	E	
B. Tech. 7 th Semester							
CO401	Artificial Intelligence	3	0	0	3	Core	
CO402	Project II	0	0	0	4	Core	
CO404	Summer Internship /Industrial Training	0	0	0	0	Audit	
CT465	Essence of Traditional Indian Knowledge	1	0	0	0	Audit	
CO405	Comprehensive Written Exam	0	0	0	0	Audit	
XXxxx	HSS/Management Elective	3	0	0	3	E	
XXxxx	Elective III				3/4	E	
XXxxx	Elective IV				3/4	E	
XXxxx	Open Elective III				3	OE	
		Total			20		
	Choose HSS/Management Elective from the following list						
BA301	Social Responsibility and Professional Ethics in Engineering	3	0	0	3	E	
Choose Electives from the following elective Groups (Only one elective from one group) or MOOCs list. Open Electives may be taken from MOOC's Open Elective List.							
Group-I (Elective III)							
CO513	Fundamentals of Speech Processing	3	0	1	4	E	
CO520	Software Defined Networking & Network Function Virtualization	3	0	0	3	E	
CO434	Image Processing	3	0	0	3	E	
Group-II (Elective IV)							
CO504	Natural Language Processing	3	0	0	3	E	
CO519	Internet of Things	3	0	1	4	E	
CO435	Mobile Computing	4	0	0	4	E	
IT510	Advanced Operating Systems	3	0	1	4	E	
Ph.D.							
CS701	Algorithms and Complexity	4	0	0	4	Core	
CS704	Doctoral Research Methodology	4	0	0	4	Core	
RP799	Research and Publication Ethics	1	0	1	2	Core	
XXxxx	Research area-based Elective I				3/4	E	
XXxxx	Research area-based Elective II (Not required if total credit already becomes 12)				3/4	E	
		Total			12-15		
Choose Electives from the following elective Groups (Only one elective from one group) or MOOCs list.							

Group-1							
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	E	
CS602	Image Processing	3	0	0	3	E	
CS607	Optimization Techniques	3	0	0	3	E	
Group-2							
CS621	Mobile Computing	4	0	0	4	E	
CS620	Data Science	3	0	1	4	E	
CS614	Recommender System	3	0	1	4	E	
Open Electives (for Non-CSE, i.e., students from other Departments)							
CS535	Introduction To Scientific Computing	3	0	0	3	OE	
CS536	Computer Applications and Information Management	2	0	1	3	OE	

List of MOOCs courses offered as electives by the Dept. of CSE in Autumn-2025

Code		Name	Duration (weeks)	Credit	Degree
CS654	noc25-cs89	Programming, data structures and algorithms using Python	8	2	UG
CS658	noc25-cs102	Social Networks	12	3	UG
CS660	noc25-cs110	Programming in Java	12	3	UG
CS661	noc25-cs101	Data Science for Engineers	8	2	UG/PG
CS669	noc25-cs146	Introduction to Industry 4.0 and Industrial Internet of Things	12	3	UG/PG
CS670	noc25-cs106	Deep Learning/ IIT Ropar	12	3	UG/PG
CS671	noc25-cs92	Reinforcement Learning	12	3	UG/PG
CS672	noc25-cs142	Ethical Hacking	12	3	UG/PG
CS673	noc25-cs125	Demystifying networking	4	1	UG/PG
CS677	noc25-cs91	Introduction to Machine Learning	12	3	UG/PG
CS678	noc25-cs103	The Joy of Computing Using Python	12	3	UG/PG
CS652	noc25-cs117	Privacy and Security in Online social media	12	3	UG

List of MOOCs courses offered as Open electives for the Dept. of CSE in Autumn-2025

Code	Name	Duration	Credit	Degree
EE610	Solar Energy Engineering and Technology	12	3	UG/PG
FE676	understanding incubation and entrepreneurship	12	3	UG
ME577	Operations and Supply chain management	12	3	UG/PG
ME462	Automation in Manufacturing	12	3	UG
ME453	Work system design	12	3	UG
ME456	Aircraft Propulsion	12	3	UG/PG

EE602	Electronic Systems for Cancer Diagnosis	12	3	UG
EE611	Design of photovoltaic systems	12	3	UG
EE685	Industrial Safety Engineering	12	3	UG
EE688	Entrepreneurship	12	3	UG
CE461	Municipal Solid Waste Management	12	3	UG
CE576	Introduction to Engineering Seismology	12	3	UG
EC473	Introduction to Photonics	12	3	UG/PG

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Head, CSE