Faculty of Science, Technology and Architecture | School of Computer Science and Engineering

Department of Computer Science and Engineering

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B. Tech. CSE

New Curriculum Structure for the Program

B.Tech. CSE

(Session: 2025-26)

Faculty of Science, Technology and Architecture | School of Computer Science and Engineering

Department of Computer Science and Engineering

B. Tech. CSE

Bachelor of Technology in Computer Science and Engineering (2025-2026) onwards (160 Credits)

	First Semester	Cr
Code	Course Name	
CHYXXXX	Engineering Chemistry & Lab	3
MASXXXX	Calculus & Matrices	3
ECEXXXX	Digital Systems	3
MEEXXXX	Manufacturing Processes	3
CSCXXXX	Problem-Solving Using Computers	3
DOAXXXX	Universal Human Values	1
CSCXXXX	Problem-Solving Using Computers Lab	1
LLCXXXX	Communication Skills	2
MEEXXXX	Engineering Graphics	1
First Semester Credits		**20**

	Second Semester	Cr
Code	Course Name	
PHYXXXX	Engineering Physics & Lab	4
MASXXXX	Computational Mathematics	3
CHYXXXX	Environmental Studies	2
CSCXXXX	Fundamentals of Data Structures	3
CSCXXXX	Data Visualization	2
MEEXXXX	Creativity & Innovation IDEA Lab	2
BITXXXX	Biology for Engineers	2
CSCXXXX	Fundamentals of Data Structure Lab	1
DOAXXXX	Wellness and Community Services	1
Second Semester Credits		**20**

	Third Semester	Cr
Code	Course Name	
MASXXXX	Probability and Statistics	3
MBAXXXX	Principles of Management	3
CSCXXXX	Data Structures and Algorithms	4
CSCXXXX	Computer Organization and Architecture	4
CSCXXXX	Relational Database Management Systems	4
CSCXXXX	Object Oriented Programming	4
CSCXXXX	Data Structures and Algorithms Lab	1
CSCXXXX	Relational Database Management Systems Lab	1
Third Semester Credits		**24**

	Fourth Semester	Cr
Code	Course Name	
CSCXXXX	Operating Systems	4
CSCXXXX	Design and Analysis of Algorithms	4
CSCXXXX	Computer Networks	4
CSCXXXX	Artificial Intelligence	4
LLCXXXX	Technical Report Writing	2
CSCXXXX	Design and Analysis of Algorithms Lab	1
CSCXXXX	Computer Networks Lab	1
CSCXXXX	Operating Systems Lab	1
CSCXXXX	Project Based Learning - 1	3
Fourth Semester Credits		**24**

	Fifth Semester	Cr
Code	Course Name	
CSCXXXX	Cloud Computing	4
CSCXXXX	Data Science and Machine Learning	4
CSCXXXX	Information System Security	4
CSCXXXX	Software Engineering	4
CSCXXXX	Program Elective 1	3
CSCXXXX	Data Science and Machine Learning Lab	1
CSCXXXX	Project Based Learning - 2	3
CSCXXXX	Software Engineering Lab	1
Fifth Semester Credits		24

	Sixth Semester	Cr
Code	Course Name	
CSCXXXX	Theory of Computation	4
MEEXXX	Engineering Economics	3
CSCXXXX	***Industry Elective	3
CSCXXXX	Program Elective 2	3
CSCXXXX	Program Elective 3	3
CSCXXXX	Program Elective 4	3
CSCXXXX	Open Elective	3
Sixth Semester Credits		22

	Seventh Semester	Cr
Code	Course Name	
CSCXXXX	Open Elective	3
CSCXXXX	Open Elective	3
CSCXXXX	Program Elective 5	3
CSCXXXX	Program Elective 6	3
CSCXXXX	Internship (Industry/ Research/ Industry Certification)	2
Seventh Semester Credits		14

	Eighth Semester	Cr
Code	Course Name	
CSCXXX	Capstone Project	12
Eighth Semester Credits		12

Bachelor of Technology in Computer Science and Engineering (2025-2026) onwards
Minor Specialization/ Honors (160 +18 Credits)

Code	First Semester Course Name	Cr
CHYXXXX	Engineering Chemistry & Lab	3
MASXXXX	Calculus & Matrices	3
ECEXXXX	Digital Systems	3
MEEXXXX	Manufacturing Processes	3
CSCXXXX	Problem-Solving Using Computers	3
DOAXXXX	Universal Human Values	1
CSCXXXX	Problem-Solving Using Computers Lab	1
LLCXXXX	Communication Skills	2
MEEXXXX	Engineering Graphics	1
	First Semester Credits	20

Code	Second Semester Course Name	Cr
PHYXXXX	Engineering Physics & Lab	4
MASXXXX	Computational Mathematics	3
CHYXXXX	Environmental Studies	2
CSCXXXX	Fundamentals of Data Structures	3
CSCXXXX	Data Visualization	2
MEEXXXX	Creativity & Innovation IDEA Lab	2
BITXXXX	Biology for Engineers	2
CSCXXXX	Fundamentals of Data Structure Lab	1
DOAXXXX	Wellness and Community Services	1
	Second Semester Credits	20

Code	Third Semester Course Name	Cr
MASXXXX	Probability and Statistics	3
MBAXXXX	Principles of Management	3
CSCXXXX	Data Structures and Algorithms	4
CSCXXXX	Computer Organization and Architecture	4
CSCXXXX	Relational Database Management Systems	4
CSCXXXX	Object Oriented Programming	4
CSCXXXX	Data Structures and Algorithms Lab	1
CSCXXXX	Relational Database Management Systems Lab	1
	Third Semester Credits	24

Code	Fourth Semester Course Name	Cr
CSCXXXX	Operating Systems	4
CSCXXXX	Design and Analysis of Algorithms	4
CSCXXXX	Computer Networks	4
CSCXXXX	Artificial Intelligence	4
LLCXXXX	Technical Report Writing	2
CSCXXXX	Design and Analysis of Algorithms Lab	1
CSCXXXX	Computer Networks Lab	1
CSCXXXX	Operating Systems Lab	1
CSCXXXX	Project Based Learning - 1	3
	Fourth Semester Credits	24

Code	Fifth Semester Course Name	Cr
CSCXXXX	Cloud Computing	4
CSCXXXX	Data Science and Machine Learning	4
CSCXXXX	Information System Security	4
CSCXXXX	Software Engineering	4
CSCXXXX	Program Elective 1	3
CSCXXXX	Data Science and Machine Learning Lab	1
CSCXXXX	Project Based Learning - 2	3
CSCXXXX	Software Engineering Lab	1
	*Minor Specialization - 1/ Honors	3
	Fifth Semester Credits	24
	Minor Specialization/ Honors Credits	27

Code	Sixth Semester Course Name	Cr
CSCXXXX	Theory of Computation	4
MEEXXX	Engineering Economics	3
CSCXXXX	***Industry Elective	3
CSCXXXX	Program Elective 2	3
CSCXXXX	Program Elective 3	3
CSCXXXX	Program Elective 4	3
CSCXXXX	Open Elective	3
	*Minor Specialization -2/ Honors	3
	Sixth Semester Credits	22
	Minor Specialization/ Honors Credits	25

Code	Seventh Semester Course Name	Cr
CSCXXXX	Open Elective	3
CSCXXXX	Open Elective	3
CSCXXXX	Program Elective 5	3
CSCXXXX	Program Elective 6	3
CSCXXXX	Internship (Industry/ Research/ Industry Certification)	2
	*Minor Specialization -3 / Honors	3
	*Minor Specialization -4 / Honors	3
	Seventh Semester Credits	14
	Minor Specialization/ Honors Credits	20

Code	Eighth Semester Course Name	Cr
CSCXXXX	Capstone Project	12
	**Minor Specialization/ Honors (Research Project)	18
	Eighth Semester Credits	12
	Minor Specialization/ Honors Credits	18

Proposed Specializations

Artificial Intelligence and Machine Learning	Cyber Security
1. Deep Learning (PE-2) 2. Advance Machine Learning Techniques (PE-3) 3. Natural Language Processing (PE-4) 4. Computer Vision and Pattern Recognition (PE-5) 5. Project Based Learning- 4 (PE-6)	1. Essentials of Cyber Security (PE-2) 2. Ethical Hacking (PE-3) 3. Blockchain Technology (PE-4) 4. Digital Forensics & Privacy Preservation (PE-5) 5. Project Based Learning-4 (PE-6)
Data Science	**Internet of Things**
1. Deep Learning (PE-2) 2. Data Analytics & Visualization (PE-3) 3. Big Data Analytics (PE-4) 4. Information Retrieval (PE-5) 5. Project Based Learning -4 (PE-6)	1. Introduction to IoT (PE-2) 2. Privacy and Security in IoT (PE-3) 3. Industrial IoT (PE-4) 4. Cyber Physical System 5. Project Based Learning -4 (PE-6)
Cloud Computing	**Software Engineering**
1. Cloud Architecture (PE-2) 2. Cloud DevOps (PE-3) 3. Cloud Data Engineering (PE-4) 4. Cloud Security & Privacy (PE-5) 5. Project Based Learning -4 (PE-6)	1. Human-Computer Interaction (HCI) (PE-2) 2. Software Design and Architecture (PE-3) 3. Agile and DevOps (PE-4) 4. Software Verification and Testing (PE-5) 5. Project Based Learning -4 (PE-6)
Quantum Computing	
1. Introduction to Quantum Mechanics (PE-2) 2. Quantum Computing (PE-3) 3. Quantum Devices (PE-4) 4. Quantum Communication (PE-5) 5. Project Based Learning -4 (PE-6)	

Industry Elective

1. Project Based Learning-3	1. Industry Elective 1- Analytics Insights 2. Industry Elective 2 3. Industry Elective 3

Program Elective 1/ Program Elective 6

1. Computer Vision 2. Computer Graphics and Multimedia Systems 3. Social Network Analysis 4. Augmented and Virtual Reality 5. High Performance Computing 6. Image Processing and Application 7. Quantum Computing 8. Nature Inspired Computing	1. Compiler Design 2. Software Testing

Program Elective 6 * Students pursuing a specialization will undertake a project relevant to their chosen field
Development Oriented Project
Design Oriented Project
Lab Oriented Project
Study Oriented Project

**Minor Specialization/ Honors (Research Project) : Students pursuing Minor Specialization/ Honors will undertake 18 Credit Project in VIII Sem, related to specialization.