CHRIST COLLEGE OF ENGINEERING
(AUTONOMOUS)

COMPUTER SCIENCE AND ENGINEERING

CURRICULUM AND SYLLABUS

2026 REGULATION

A CMI INSTITUTION

CHRIST COLLEGE OF ENGINEERING (AUTONOMOUS)

COMPUTER SCIENCE AND ENGINEERING

2026 REGULATION

Approved by BoS meeting held on: 17/06/2026

Approved by Academic Council meeting held on: 23/06/2026

BoS Chairperson	Director of Academics	Principal
Dr Sooraj T R	Dr. Manoj George	Dr. Soloman P A

(College seal)

Programme Structure

Semester (Credits)	S1	S2	S3	S4	S5	S6	S7	S8	Total	%	KTU	AICTE model
Humanities and Social Science Course including Management Course (HM)	2	-	5	1	2	-	-	-	**10**	59.88	5.98	7.5
Basic Science Course (BS)	8	8	3	3	-	3	-	-	**25**	14.97	11.98	18.1
Engineering Science Course (ES)	11	11	-	-	1	-	-	-	**23**	13.77	16.16	16.87
Programme Core Courses (PC)	-	4	15	18	15	14	-	-	**66**	39.52	40.71	36.25
Programme Elective Course (PE)	-	-	-	3	3	3	6	3	**18**	10.77	10.78	5.6
Open Elective Course (OE)	-	-	-	-	-	3	3	3	**9**	5.38	5.39	5.6
Skill Enhancement Course (SE)	1	1	1	1	1	1	-	-	**6**	3.59	0	0
Project/ Internship/Seminar (PR/IP/SR)	-	-	-	-	-	-	6	4	**10**	5.98	5.99	10
Mandatory Course (MC) (Environmental Science, Induction program, Indian Constitution, Essence of Indian Knowledge Tradition)	Pass/ Fail	Pass/ Fail	-	Pass/ Fail	Pass/ Fail	Pass/ Fail	-	-	**0**	0		
Total	**22**	**24**	**24**	**26**	**22**	**24**	**15**	**10**	**167**			
Minor	0	0	4	4	4	4	0	0	**16**			
Honour	0	0	0	4	4	4	4	0	**16**			

Additional 3 Credits from Activity points

Course Distribution by Semester and Type

Sl. No.	Course Type	Number of Courses								Total
		S1	S2	S3	S4	S5	S6	S7	S8	
1	Humanities and Social Science Course including Management Course (HM)	1	0	3	1	1	0	0	0	6
2	Basic Science Course (BS)	2	2	1	1	0	0	0	0	6
3	Engineering Science Course (ES)	4	4	0	0	1	0	-	-	9
4	Programme Core Courses (PC)	0	1	5	6	5	5	-	-	22
5	Programme Elective Course (PE)	0	-	-	1	1	1	2	1	6
6	Open Elective Course (OE)	0	-	-	-	-	1	1	1	3
7	Skill Enhancement Course (SE)	1	1	1	1	1	1	0	-	6
8	Project/ Internship/Seminar (PR/IP/SR)	0	0	0	0	0	0	2	1	3
9	Mandatory Non-Credit Course (MC)	1	1	0	1	1	1	0	0	5
	Total	9	9	10	11	10	9	5	3	66

Course Code Format Guidelines

Each course in the curriculum shall be identified by a unique nine-character alphanumeric code structured as follows:

1. First Letter - Department Code

Indicates the parent department:

C - Civil Engineering
M - Mechanical Engineering
E - Electrical and Electronics Engineering
L - Electronics and Communication Engineering
V - VLSI
R - Computer Science and Engineering
B - Computer Science and Business Systems
D - Computer Science and Engineering (Data Science)

2. Second and Third Letters - Curriculum Scheme Year

Represents the year in which the curriculum scheme was introduced (e.g., 26 for 2026).

3. Fourth and Fifth Letters - Abbreviation of Course Title

Two-letter short form of the course title (e.g., MA for Mathematics, DS for Data Structures).

4. Sixth Letter - Course Type Indicator

Denotes the nature of the course:

T - Theory
P - Practical
E - Lab Embedded
R - Project

5. Seventh Character - Semester Number

Indicates the semester in which the course is offered (e.g., 1 for Semester I).

6. Eighth and Ninth Characters - Course Sequence Number

Represents the order of the course in that semester (e.g., 21 for the 21st course).

Example:

M26TDT403
M - Mechanical Engineering
26 - Curriculum Revision 2026
TD - Thermodynamics
T - Theory Based Course
4 - Offered in Semester IV
03 – 3rd Course in that semester

FIRST SEMESTER: Computer Science and Engineering														
10 Days Compulsory Induction Program and Universal Human Values														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./Week
						L	T	P	R		CAE	ESE		
THEORY														
1	A	G26ACE101	BS	GC	Linear Algebra & Calculus with Simulation Lab	2	1	2	0	4.5	40	60	4	5
2	B	G26CYE103	BS	GC	Advanced Engineering Chemistry	2	1	2	0	4.5	40	60	4	5
3	C	G26GPT105	ES	GC	Engineering Graphics	2	0	2	0	4	40	60	3	4
4	D	G26CMT106	ES	GC	Basics of Civil and Mechanical Engineering	4	0	0	0	6	40	60	4	4
5	E	G26ATE110	ES	CC	Algorithmic thinking with Python	2	0	2	0	4	40	60	3	4
PRACTICALS														
6	G	G26WSP111	ES	GC	Civil and Mechanical Workshop Practice	0	0	2	0	1	50	50	1	2
7	H	A26AET115	HM	CC	Applied English for Communication	2	0	0	0	3	50	-	2	2
8	I	A26EDR113	SE	CC	Engineering Design and Innovation Studio (EDIS-I)	0	0	0	2	2	50	-	1	2
MANDATORY COURSES														
9	J	A26HWP114	MC	CC	Health and Wellness	1	0	1	0	2	50	-	Pass /Fail	2
ACTIVITY POINT PROGRAMME														
10	-	A26APP115	MC	CC	Activity Point Programme[$]								0	-
Total										**33**			**22**	**30**

- L-T-P-R = Lecture – Tutorial – Practical - Project
- SS (Self Study) Hours = 1.5*L+0.5*T+0.5*P+R
- CAE = Continuous Assessment and Evaluation, and ESE = End Semester Examination

[$] **Activity Points:** Students are required to acquire a minimum of 120 activity points, with at least 40 points per group, to fulfil the curriculum requirement of 3 activity credits. At the end of 6th semester, the students are required to earn the minimum number of activity points from the AICTE mandated activity point programme to qualify for the award of B. Tech degree.

SECOND SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	T	P	R	SS	Total CAE	ESE	Credits	Hrs./Week
THEORY														
1	A	G26VDT201	BS	GC	Vector Calculus, Differential Equations and Transforms	3	1	0	0	5	40	60	4	4
2	B	G26PHE112	BS	GC	Modern Engineering Physics	2	1	2	0	4.5	40	60	4	5
3	C	R26DMT201	PC	PC	Discrete Mathematics	3	1	0	0	5	40	60	4	4
4	D	G26ELT108	ES	GC	Basics of Electrical and Electronics Engineering	4	0	0	0	6	40	60	4	4
5	E	G26CPT110	ES	CC	Problem Solving and C Programming Laboratory	2	0	2	0	4.5	40	60	3	4
6	F	A26AIT305	ES	GC	Introduction to Artificial Intelligence and Data Science	3	0	0	0	4.5	40	60	3	3
PRACTICALS														
7	G	G26EWP112	ES	GC	Electrical and Electronics Workshop Practice	0	0	2	0	1	50	50	1	2
8	I	A26EDR228	SE	CC	Engineering Design and Innovation Studio (EDIS-II)	0	0	0	2	2	50	-	1	2
MANDATORY COURSES														
9	J	A26EST214	MC	CC	Employability Skills and Professional Development	2	0	0	0	3	50	-	Pass / Fail	1
Activity Point Programme														
10	-	A26APP215	MC	CC	Activity Point Programme								0	-
					Total					**35.5**			**24**	**29**

THIRD SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	T	P	R	SS	Total CAE	ESE	Credits	Hrs./Week
THEORY														
1	A	G26PRT301	BS	GC	Probability Distributions and Random Processes	2	1	0	0	3.5	40	60	3	3
2	B	R26DER302	PC-PBL	PC	Digital Electronics #	2	1	0	1	4.5	60	40	4	4
3	C	R26DST303	PC	PC	Data Structures and Algorithms	3	1	0	0	5	40	60	4	4
4	D	R26OOT304	PC	PC	Object Oriented Programming	2	1	0	0	3.5	40	60	3	3
5	E	G26EET505	HM	GC	Engineering Economics	2	0	0	0	3	40	60	2	2
6	F	A26FLT3X6	HM	CC	Foreign Language Elective #	2	0	0	0	3	50	-	2	2
7	G	G26EST307	HM	CC	Environmental Science	1	0	0	0	1.5	40	60	1	1
PRACTICALS														
8	H	R26DSP308	PC	PC	Data Structures Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR329	SE	CC	Engineering Design and Innovation Studio (EDIS-III)	0	0	0	2	2	50	-	1	2
10	J	R26OPP310	PC	PC	Object Oriented Programming Lab	0	0	3	0	1.5	50	50	2	3
ACTIVITY POINT PROGRAMME														
11		A26APP311	MC	CC	Activity Point Programme								0	
VALUE ADDED COURSES														
12	M	-	VA	CC	Remedial/Minor course	3	1	0	0	5			4	4
Total										**29/ 34***			**24/ 28***	**27/ 31***

*PBL (Project-Based Learning) Courses Integrated in Semesters 3 to 6

#Foreign Language Electives:

1. A26FLT316 - German Language – Level A1
2. A26FLT326 - French Language – Level 1
3. A26FLT336 - Japanese Language

FOURTH SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./Week
						L	T	P	R		CAE	ESE		
THEORY														
1	A	G26GTT401	BS	GC	Graph Theory	2	1	0	0	3.5	40	60	3	3
2	B	R26COR402	PC-PBL	PC	Computer Organization and Architecture	2	1	0	1	4.5	60	40	4	4
3	C	R26OST403	PC	PC	Operating Systems	2	1	0	0	3.5	40	60	3	3
4	D	R26DBT404	PC	PC	Database Management Systems	2	1	0	0	3.5	40	60	3	3
5	E	R26AAT405	PC	PC	Algorithm Analysis and Design	3	1	0	0	5	40	60	4	4
6	F	R26PE14XX	PE	PE	Professional Elective - I	3	0	0	0	4.5	40	60	3	3
7	G	G26ICT407	HM	CC	Indian Constitution	1	0	0	0	1.5	50	-	1	1
PRACTICALS														
8	H	R26OSP408	PC	PC	Operating Systems Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR429	SE	CC	Engineering Design and Innovation Studio (EDIS-IV)	0	0	0	2	2	50	-	1	2
10	J	R26DBP410	PC	PC	Database Management Systems Lab	0	0	3	0	1.5	50	50	2	3
MANDATORY NON- CREDIT COURSES														
11	K	A26BCT411	SE	CC	Business and Managerial Communications	1	0	0	0	1.5	50	-	Pass / Fail	1
ACTIVITY POINT PROGRAMME														
12	-	A26APP412	MC	CC	Activity Point Programme					0			-	
VALUE ADDED COURSES														
13	M	-	VA	CC	Remedial/Minor/Honours Course	3	1	0	0	5	40	60	4	4
Total										**32.5/ 37.5***			**26/ 30***	**30/ 34***

FIFTH SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./Week
						L	T	P	R		CAE	ESE		
THEORY														
1	B	R26CNR501	PC-PBL	PC	Computer Networks	2	1	0	1	4.5	60	40	4	4
2	B	R26TCT502	PC	PC	Theory of Computation	2	1	0	0	3.5	40	60	3	3
3	C	R26IMT503	PC	PC	Machine Learning	3	1	0	0	5	40	60	4	4
4	D	R26PE25XX	PE	PE	Professional Elective – II	3	0	0	0	4.5	40	60	3	3
5	E	G26MET406	HM	CC	Management for Engineers	2	0	0	0	3	40	60	2	2
6	F	A26IIT604	ES	CC	Introduction to Industry 4.0	1	0	0	0	1.5	40	60	1	1
PRACTICALS														
7	G	R26WPP507	PC	PC	Web Programming Lab	0	0	3	0	1.5	50	50	2	3
8	H	R26MLP508	PC	PC	Machine Learning Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR529	SE	CC	Engineering Design and Innovation Studio (EDIS-V)	0	0	0	2	2	50	-	1	2
MANDATORY NON- CREDIT COURSES														
10	K	A26QRT510	SE	CC	Quantitative and Reasoning Skills	1	0	0	0	1.5	50	-	Pass/ Fail	1
ACTIVITY POINT PROGRAMME														
11	-	A26APP511	MC	CC	Activity Point Programme								-	-
VALUE ADDED COURSES														
12	M	-	VA	CC	Remedial/Minor/Honours Course	3	1	0	0	5	40	60	4	4
Total										**28.5/33.5***			**22/26***	**26/30***

Students can undertake the summer internship during the vacation after the 4th and 6th semester. The internship should be carried out in reputed industries, companies, or R&D organizations. The evaluation of the internship will consist of a presentation, report, and viva-voce. The credits will be added to the 5th and 7th semesters. Students can also opt for prescribed MOOC Courses instead of summer internship.

$ In place of the summer internship, a MOOC course such as Project Management, Entrepreneurship, IPR, or any other engineering-related course may be offered, as decided by the Board of Studies from time to time.

SIXTH SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	T	P	R	SS	Total CAE	ESE	Credits	Hrs./ Week
THEORY														
1	A	R26CDT601	PC	PC	Compiler Design	2	1	0	0	3.5	40	60	3	3
2	B	R26IQT602	PC	PC	Introduction to Quantum Computing	2	1	0	0	3.5	40	60	3	3
3	C	R26FDT603	PC-PBL	PC	Fundamentals of Digital Image Processing	2	1	0	1	4.5	60	40	4	4
4	D	A26BEE506	BS	CC	Fundamentals of Biological Engineering	2	0	2	0	4	40	60	3	4
5	E	R26PE36XX	PE	PE	Professional Elective – III	3	0	0	0	4.5	40	60	3	3
6	F	G26OE16XX	OE	OE	Open Elective – I#	3	0	0	0	4.5	40	60	3	3
PRACTICALS														
7	G	R26CDP607	PC	PC	Compiler Lab	0	0	3	0	1.5	50	50	2	3
8	H	R26DAP08	PC	PC	Data Analytics Lab	0	0	3	0	1.5	50	50	2	3
9	I	A26EDR629	SE	CC	Engineering Design and Innovation Studio (EDIS-VI)	0	0	0	2	2	50	-	1	2
MANDATORY NON- CREDIT COURSES														
10	J	A26UHP614	HM	CC	Universal Human Values and Professional Ethics	1	0	1	0	2	50	50	Pass/ Fail	2
ACTIVITY POINT PROGRAMME														
11	-	A26APP615	MC	CC	Activity Point Programme $								-	-
VALUE ADDED COURSES														
12	R/M/H	-	VA	CC	Remedial/Minor/Honours Course	3	1	0	0	5			4	4
		Industrial Visit (Maximum 7 Days are permitted, not exceeding 5 working days)												
Total										**31.5/36.5***			**24/ 28***	**30/ 34***

***** Students are encouraged to choose professional electives from a single stream, preferably.

Open Electives are such courses which will be offered for other departments. Like ME department students have to opt open electives from CE/EEE/CS/CSDS/CSBS/ECE/VLSI/ME/EEE departments.

SEVENTH SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit L	Credit T	Credit P	Credit R	SS	Total CAE	Total ESE	Credits	Hrs./Week
THEORY														
1	A	R26PE47XX	PE	PE	Professional Elective - IV (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	R26PE57XX	PE	PE	Professional Elective - V (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
3	C	G26OE27XX	OE	OE	Open Elective - II (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
4	D	R26SMP704	SR	SR	Seminar (Symposium)	0	0	3	0	1.5	50	0	2	3
PRACTICALS														
5	P	R26CPR705	PR/IP	PR/IP	Option 1: Capstone Project Phase - I	0	0	0	12	12	100	0	4	12
		R26INR705	PR/IP	PR/IP	Option 2: Industry Internship(4 – 6 months) *					-	100			
VALUE ADDED COURSES														
6	M	-	VA	CC	Remedial/Honours Course	3	0	0	0	4.5			4	4
Total										**27/ 31.5***			**15/ 19***	**24/ 28***

* The students can take the Industry Internship option either in 7th or in 8th semester.

Option 1: Work on a Capstone Project in the institute/department under the mentorship of faculty members.

Option 2: Full semester Internship in Industry/organization (7th or 8th semester)

EIGHTH SEMESTER: Computer Science and Engineering														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit				SS	Total		Credits	Hrs./Week
						L	T	P	R		CAE	ESE		
THEORY														
1	A	R26PE68XX	PE	PE	Professional Elective - VI (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
2	B	R26OE38XX	OE	OE	Open Elective - III (Internship Students: Self Study/MOOC Approved by the College/Online Classes)	3	0	0	0	4.5	40	60	3	3
PRACTICALS														
3	I	R26CPR803	PR/IP	PR/IP	Option 1: Capstone Project	0	0	0	12	12	100	0	4	12
		R26INR803	PR/IP	PR/IP	Option 2: Industry Internship(4 – 6 Months) *				-		100			
		R26CP2803	PR/IP	PR/IP	Option 3: Capstone Project Phase - II									
Total										**21**			**10**	**18**

Professional Electives - Streams

1. Software Engineering

1. Software Engineering – Level 3
2. Software Project Management – Level 3
3. Agile Software Development – Level 3
4. Software Testing - Level 3/ Level 5
5. Formal Methods in Software Engineering- Level 3 / Level 5
6. Software Architecture – Level 3/Level 5

2. Cyber security

1. Foundations of Security in Computing- Level 3
2. Fundamentals of Cyber Security – level 3
3. Cyber Ethics Privacy and legal issues Level 3
4. Block Chain and Cryptocurrencies – Level 3/Level 5
5. Digital Forensics- Level 3/ Level 5

6. Network and Cloud Security- Level 3/Level 5

3. Artificial Intelligence and Machine Learning

1. Soft Computing – Level 3
2. Data Analytics- Level 3
3. Deep Learning- Level 3
4. Natural Language Processing – Level 3/ Level 5
5. Responsible AI- Level 3/ Level 5
6. Generative AI and LLM – Level 3/ Level 5

4. Advanced Algorithm and Data Structures

1. Advanced Data Structures – Level 3
2. Advanced Graph Algorithms – Level 3
3. Randomised Algorithms – Level 3
4. Approximation Algorithms – Level 3/ Level 5
5. Parallel Algorithms- Level 3/ Level 5
6. Computational Complexity – Level 3/ Level 5

5. General Stream

1. Cloud Computing- Level 3
2. Internet of Things- Level 3
3. Full Stack Web Development- Level 3 / Level 5
4. Human Computer Interaction - Level 3 / Level 5
5. Big Data Technologies- Level 3 / Level 5
6. Ethical hacking- Level 3

5. Language Electives

1. German Language – Level A1.1
2. French Language – Level 1
3. Japanese Language

Open Electives

Open Elective Group 1

1. Introduction to Cyber Security
2. Artificial Intelligence
3. Web Development

4. Software Engineering

Open Elective Group 2

1. Data Structures
2. Machine Learning for Engineers
3. Object Oriented Programming
4. Computer Networks

Open Elective Group 3

1. Prompt Engineering
2. Software Testing
3. Software Architectures
4. Introduction to Algorithms

Open Elective Group 4

1. Sustainable Energy Systems and Technologies
2. Introduction to Sustainable Manufacturing
3. Waste Heat Recovery and Utilization
4. Sustainable Design of Industries

Open Elective Group 5

1. Introduction to Indian Knowledge Systems
2. Humanities and Social Sciences in IKS
3. Science, Engineering and Technology in IKS
4. Indian Knowledge System: Concepts and Applications in Engineering

SEMESTER 3 & 4

Minor course Baskets

Basket 1	**ARTIFICIAL INTELLIGENCE AND DATA SCIENCE**
Basket 2	**CYBER SECURITY AND PRIVACY**
Basket 3	**SYSTEMS AND CLOUD SOFTWARE ENGINEERING**

BASKET 1 - MINOR IN ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

LIST OF NPTEL COURSES

	Course Name	**Duration**	**Credit**	**Link**
ODD SEM	Introduction to Machine Learning	12 weeks	4	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_cs133
	Artificial Intelligence : Search Methods for Problem solving	12 weeks	4	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_cs132
EVEN SEM	Deep Learning	12 weeks	4	https://onlinecourses.nptel.ac.in/noc26_cs66/preview
	Natural Language Processing	12 weeks	4	https://onlinecourses.nptel.ac.in/noc26_cs45/preview

BASKET 2 - MINOR IN CYBER SECURITY AND PRIVACY

	Course Name	**Duration**	**Credit**	**Link**
ODD SEM	Ethical Hacking	12 weeks	4	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_cs157
	Cyber Security and Privacy	12 weeks	4	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_cs144

EVEN SEM	Cryptography and Network Security	12 weeks	4	https://onlinecourses.nptel.ac.in/noc26_cs57/preview
	Blockchain and its Applications	12 weeks	4	https://onlinecourses.nptel.ac.in/noc26_cs34/preview

BASKET 3 - MINOR IN SYSTEMS AND CLOUD SOFTWARE ENGINEERING

	Course Name	**Duration**	**Credit**	**Link**
ODD SEM	Software Engineering	12 weeks	4	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_cs151
	Computer Architecture and Organization	12 weeks	4	https://onlinecourses.nptel.ac.in/e-learning/preview/noc26_cs166
EVEN SEM	Cloud Computing	12 weeks	4	https://onlinecourses.nptel.ac.in/noc26_cs55/preview
	Object Oriented System Development using UML, Java And Patterns	12 weeks	4	https://onlinecourses.nptel.ac.in/noc26_cs46/preview