R25 Course Structure - BTech CSE Program																
Parent	**Sub**	**Course Code**	**Level**	**Course Title**	**Abb**	**L**	**T**	**P**	**S**	**I**	**C**	**CH**	**PRE-REQ**	**S/NS**	**MOOCS**	**EVAL**
Semester - 1																
FC	BSC	25PHY1001	100	Engineering Physics	EPY	3	0	2	0	0	4	5				
FC	BSC	25CHE1001	100	Engineering Chemistry	ECH	3	0	0	0	0	3	3				
UC	AEC	25ENG1001	100	English for Academic and Professional Growth	EAP	3	0	2	0	0	4	5				
FC	BSC	25MAT1001	100	Discrete Mathematics	DMS	3	1	0	0	0	4	4				
FC	ESC	25CSE1101	100	Problem Solving and Computer Programming through C	PSC	2	0	4	0	0	4	6				
FC	ESC	25EEC1101	100	Fundamentals of Electrical and Electronics Engineering	FEE	3	0	0	0	0	3	3				
FC	ESC	25CSE1001	100	IT Workshop [Engg Chem comb]*	IWK	0	0	2	0	0	1	2				
UC	HAS	25HAS1201	100	Introduction to Sustainability, SDGs and Innovation	SSI	0	0	0	2	0	1	2				
UC	VAC	25VAC1001	100	Induction Program	IDP	1	0	0	0	0	0	1				
Total for Sem -1						**15**	**1**	**8**	**2**	**0**	**20**	**26**				
Semester - 2																
FC	BSC	25PHY1001	100	Engineering Physics	EPY	3	0	2	0	0	4	5				
FC	BSC	25CHE1001	100	Engineering Chemistry	ECH	3	0	0	0	0	3	3				
FC	BSC	25MAT1002	100	Probability and Statistics	PST	3	1	0	0	0	4	4				
FC	ESC	25CSE1202	100	Digital Logic Design	DLD	3	1	0	0	0	4	4				
FC	ESC	25CSE1102	100	Data Structures through C	DSC	2	0	4	0	0	4	6	PSC			
FC	ESC	25CSE1103	100	Object Oriented Programming	OOP	0	0	4	2	0	3	6				
UC	AEC	25ENG1002	100	Joy of Communication: Oral Skills for Success	JOS	0	0	2	2	0	2	4				
FC	ESC	25CSE1001	100	IT Workshop [Engg Chem comb]*	IWK	0	0	2	0	0	1	2				
UC	HAS	25HAS1202	100	Design Thinking for Engineers	DTE	0	0	0	2	0	1	2	SSI			
Total for Sem -2						**11**	**2**	**12**	**6**	**0**	**22**	**31**				
FC	RPI	25CSE1901	100	Social Internship	SIP	0	0	0	0	3	1	0				
Semester - 3																
FC	BSC	25MAT1003	100	Linear Algebra and Calculus	LAC	3	1	0	0	0	4	4				
FC	SDD	25CSE2202	200	Automata and Compiler Design	ACD	3	0	2	0	0	4	5				
FC	SDD	25CSE2101	200	Programming through Java	PTJ	2	0	4	0	0	4	6				
FC	ESC	25CSE1203	100	Computer Organization and Architecture	COA	3	1	0	0	0	4	4				
FC	SDD	25CSE2102	200	Design and Analysis of Algorithms	DAA	3	0	2	0	0	4	5	DSC			
UC	SEC	25SDC1101	100	21st Century Skills: Quantitative Aptitude and Personal Effectiveness	QAP	0	0	0	2	0	1	2				
UC	SEC	25SDC2201	200	Competitive Programming Practicum	COP	0	0	0	2	0	1	2				
PC	SDC	25CSE2302	100	Front-End Development Foundations	FED	0	0	2	2	0	2	4		✓		
UC	HAS	25HAS2201	200	Customer Discovery and MVP Development	CUD	0	0	0	2	0	1	2	DTE			
Total for Sem -3						**14**	**2**	**10**	**8**	**0**	**25**	**34**				
Semester - 4																
FC	SDD	25CSE2201	200	Operating Systems	OPS	3	0	2	0	0	4	5				
FC	SDD	25CSE2401	200	Artificial Intelligence & Machine Learning	AML	4	0	2	0	0	5	6	LAC			
FC	SDD	25CSE2103	200	Database Management Systems	DBS	3	0	2	0	0	4	5				
FC	SDD	25CSE2601	200	Computer Networks	CNW	3	0	2	0	0	4	5				
FC	SDC	25CSE2303	200	Full Stack Application Development	FSD	0	0	4	2	0	3	6	FED			
UC	SEC	25SDC1102	100	21st Century Skills: Verbal Aptitude and Digital Literacy	VAE	0	0	0	2	0	1	2				
UC	VAC	5VAC110X/140	100	Sports Bucket/Health and Wellness Bucket		0	0	0	2	0	0	2		✓		
UC	VAC	5VAC120X/130	100	Professional Societies /Community Services Bucket												
UC	HAS	25HAS2202	200	Business Model Innovation & Early-Stage Venture Formation	BMI	0	0	0	2	0	1	2	CUD			
Total for Sem -4						**13**	**0**	**12**	**8**	**0**	**22**	**33**				
FC	RPI	25CSE2901	200	Technical Writing	TIP	0	0	0	0	3	1	0				
Semester - 5																
PC	SYS	Refer PCs		Track: Systems & Architectures/General		3	0	2	0	0	4	5				
PC	CMV	Refer PCs		Track: Computer Vision/General^		3	0	2	0	0	4	5				
PE	PE1	Refer PEs		Program Elective 1*		3	0	0	2	0	4	5				
OE	OE1	Refer OEs		Open Elective 1#		3	0	0	0	0	3	3				
UC	SEC	25SDC210X	200	Essential Employability Skills Bucket		0	0	0	2	0	1	2				
UC	SEC	25SDC3201	300	Code Challenge Accelerator Program	CAP	0	0	0	2	0	1	2				
UC	HAS	25HAS110X	100	Foreign Languages Bucket		0	0	2	0	0	1	2				
UC	VAC	5VAC110X/140	100	Sports Bucket/Health and Wellness Bucket		0	0	0	2	0	0	2		✓		
UC	VAC	5VAC120X/130	100	Professional Societies /Community Services Bucket												
UC	HAS	25HAS3201	300	Investor Readiness and Scaling Ventures	INM	0	0	0	2	0	1	2	BMI			
Total for Sem -5						**12**	**0**	**6**	**10**	**0**	**19**	**28**				
Semester - 6																

FC	SDD	25CSE2301	200	Software Engineering	SWG	3	0	2	0	0	4	5					
PC	SWE	Refer PCs		Track: Sofware Engineering/General^		3	0	2	0	0	4	5					
PE	PE2	Refer PEs		Program Elective 2*		3	0	0	2	0	4	5					
PE	PE3	Refer PEs		Program Elective 3*		3	0	0	2	0	4	5					
UC	AEC	25ENG2001	200	English for Career Readiness	ECR	0	0	2	2	0	2	4					
FC	SDC	25CSE3402	300	Cloud and Devops Engineering	CDE	0	0	2	2	0	2	4	FSD		✓		
UC	VAC	25VAC1002	100	Indian Constitution	INC	2	0	0	0	0	0	2		✓			
UC	HAS	25HAS3202	300	Product Launch and Market Readiness	PLM	0	0	0	2	0	1	2	IRV				
Total for Sem -6						**14**	**0**	**8**	**10**	**0**	**21**	**32**					
FC	RPI	25CSE2902	200	Summer Internship	SUP	0	0	0	0	4	2	0					
Semester - 7																	
PC	AML	Refer PCs		Track: Artificial Intelligence and Machine Learning/General^		3	0	2	0	0	4	5					
PE	PE4	Refer PEs		Program Elective 4*		3	0	0	2	0	4	5					
OE	OE2	Refer OEs		Open Elective 2#		3	0	0	0	0	3	3					
FC	SDC	25CSE3403	300	Cloud based AI/ML Specialization	CAM	0	0	2	2	0	2	4	CDE		✓		
UC	VAC	25VAC1003	100	Universal Human Values - II	UHV	2	0	0	0	0	0	2					
UC	HAS	25HAS4201	400	Post-Launch Growth & Venture Management	PVM	0	0	0	2	0	1	2	PLM				
FC	RPI	25CSEL3901	300	Capstone Project - 1/Internship-1	IN1	0	0	0	0	5	5	5					
Total for Sem -7						**11**	**0**	**4**	**6**	**5**	**19**	**26**					
Semester - 8																	
OE	OE3	Refer OEs		Open Elective 3#		3	0	0	0	0	3	3					
UC	VAC	25VAC1004	100	Environmental Studies	EVS	2	0	0	0	0	0	2					
FC	RPI	25CSE4901	400	Capstone Project - 2/Internship-2/Research	IN2	0	0	0	0	10	10	10					
Total for Sem -8						**5**	**0**	**0**	**0**	**10**	**13**	**15**					
Total credits and contact hours for BTech CSE program						**95**	**5**	**60**	**50**	**25**	**165**	**225**					

CREDITS DISTRIBUTION and SU vs AICTE vs UGC

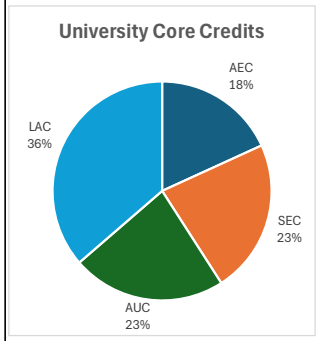
Category	Abbr	Sub Category	Abbr	Credits	Courses	Total
University Core	UC	Ability Enhancment Courses	AEC	8	3	21
		Skill Enhancement Courses	SEC	5	5	
		Audit Courses	VAC	0	8	
		Humanities and Social Sciences	HAS	8	8	
Faculty Core	FC	Basic Sciences	BSC	19	5	61
		Engineering Sciences	ESC	23	7	
		Research, Project and Internship	RPI	19	5	
Program Core	PC	Standard Courses	SDD	33	8	58
		Track:Systems & Architectures/General	SYS	4	1	
		Track: Computer Vision/General	CMV	4	1	
		Track: Sofware Enginnering/General	SWE	4	1	
		Track: Artificial Intelligence & Machine Learning/General	AML	4	1	
		Skill Development	SDC	9	4	
Program Electives	PE	BIO/UIX/BKC/IOT/DRT/General	PE1	4	1	16
		BIO/UIX/BKC/IOT/DRT/General	PE2	4	1	
		BIO/UIX/BKC/IOT/DRT/General	PE3	4	1	
		BIO/UIX/BKC/IOT/DRT/General	PE4	4	1	
Open Electives	OE	BT/CE/MECH/EE/IE/MGM	OE1	3	1	9
		BT/CE/MECH/EE/IE/MGM	OE2	3	1	
		BT/CE/MECH/EE/IE/MGM	OE3	3	1	
Total Credits for BTech CSE AIML					**64**	**165**

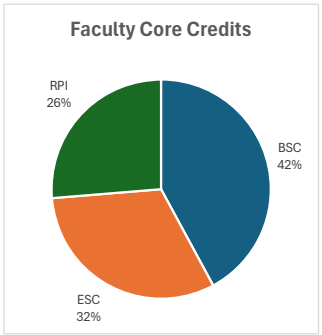
Cat	Credits	%
UC	21	13
FC	61	37
PC	58	35
PE	16	10
OE	9	5

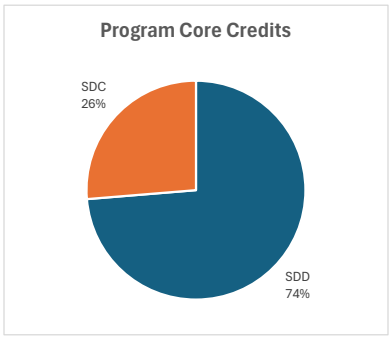
Cat	SU	AICTE	UGC	
HAS	21	16	AEC	8
BSC	19	23	SEC	9
ESC	23	29	HAS	9
PC	58	59	BSC+ESC +PC+PE(Major +Minor)	112
PE	16	12		
OE	9	9		
RPI	19	15	RPI	16
VAC	-	-	VAC+OE	6
	165	163		160

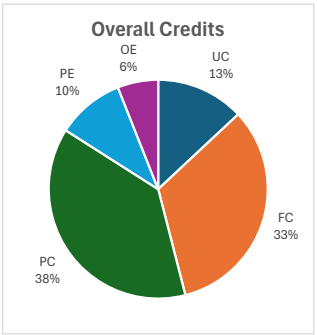
HAS = AEC + SEC +HAS

AICTE	https://www.aicte.gov.in/sites/default/files/Updated-AICTE%20-%20UG%20CSE.pdf
UGC	https://www.ugc.gov.in/e-book/FYUGP/mobile/index.html









1.**University Core**: Fundamental courses mandated by the university to provide a broad and essential foundation across disciplines.
2.**Faculty Core**: Core courses specific to a faculty, aimed at building foundational knowledge in the respective academic domain.
3.**Program Core**: Mandatory courses tailored to a specific program, focusing on essential knowledge and skills within the field of study.
4.**Professional Electives**: Specialized elective courses offering advanced knowledge and skills related to the professional domain.
5.**Open Electives**: Flexible elective courses chosen by students from a wide range of disciplines to explore diverse interests.
6.**Ability Enhancement Courses**: Courses designed to improve essential communication, reasoning, and analytical skills, enhancing overall academic and professional competency.
7.**Skill Enhancement Courses**: Practical-focused courses aimed at building technical, vocational, and soft skills relevant to employability and career growth.
8.**Audit Courses**: Mandatory non-credit courses undertaken voluntarily for knowledge enhancement without impacting grades or GPA.
9.**Liberal Arts**: Courses in humanities, social sciences, and creative arts, promoting critical thinking, design thinking, innovation and holistic education.
10.**Basic Sciences**: Foundational science courses that provide the basic principles and theories essential for advanced learning.
11.**Engineering Sciences**: Core engineering courses covering fundamental concepts and applications across various technical disciplines.
12.**Research, Project and Internship**: Academic initiatives combining research, project work, and internships to foster practical problem-solving skills.
13.**Skill Development**: Industry-aligned courses that enhance professional, technical, and employability skills in students.

Note:	***PC (Track)^***	*B.Tech. CSE students must select a track of their interest by the end of Semester 4, with the option to shift to the general track before the end of Semester 5, subject to Department and Dean approval.*
	PE*	*May opt from any one/multiple segment(s)/general PEs from the offered list of courses by the Dept/School*
	OE#	*May opt from any one/multiple categories Oes from the offered list of courses by the Dept/School*
ABB.	**PRE-REQ**	*Pre-Requisite*
	S/NS	*Satisfactory/Not Satisfactory*
	MOOCS	*Courses/Global Certifications approved by BoS*
	EVAL	*Evaluation Pattern for Courses*