

School of Engineering and Technology

2025-26 B. Tech ECE (AI & Cybernetics)

First Year - Autumn Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration	Weightage		
		L	T	P			CW	MTE	ETE
UC 23.101	Human Values & Professional Ethics	2	0	0	2	3	10	40	50
MA 23.101	Mathematics I	3	1	0	4	3	10	40	50
CY 23.101	Engineering Chemistry	3	0	0	3	3	10	40	50
EC 25.101	Basic of Electronics Engineering	3	0	0	3	3	10	40	50
CS 23.101	Programming for Problem Solving	3	0	0	3	3	10	40	50
ME 23.111	Computer Aided Engineering Drawing	0	0	4	2	2	20	20	40
CY 23.111	Chemistry Laboratory	0	0	2	1	2	50	-	50
EC 23.111	Electronics Laboratory	0	0	2	1	2	50	-	50
CS 23.111	Programming Laboratory	0	0	4	2	2	50	-	50
CY 23.102	Environmental Sciences	2	0	0	2	3	10	40	50
PB 25.101	Project Based Learning	0	0	2	1	-	-	50	50
SF 101	Personal Grooming and Fine Dining (Non Graded)	0	0	2	1	2	50		50
Total		16	1	16	24				

First Year -Spring Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
UC 23.102	Pragmatic English Communication	2	0	0	2	3	10	40	50
MA 23.102	Mathematics II	3	1	0	4	3	10	40	50
PY 23.101	Engineering Physics	3	0	0	3	3	10	40	50
ME 25.101	Applied Mechanics	3	0	0	3	3	10	40	50
EE 25.101	Basic Electrical Engineering	3	0	0	3	3	10	40	50
CS 23.102	Object Oriented Programming through C++	3	0	0	3	3	10	40	50
PY 23.111	Physics Laboratory	0	0	2	1	2	50	-	50
EE 23.111	Electrical Laboratory	0	0	2	1	2	50	-	50
CS 23.112	Object Oriented Programming Laboratory	0	0	2	1	2	50	-	50
ME 23.112	Mechanical Workshop	0	0	2	1	2	50	-	50
PB 25.102	Project Based Learning	0	0	2	1	-	-	50	50
SF 102	Social Grooming, Home & Décor and Business Communication (Non Graded)	0	0	2	1	2	50		50
Total		17	1	12	23				

Second Year - Autumn Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
MA 23.201	Mathematics-III	3	1	0	4	3	10	40	50
CS 23.205	General Purpose Programming	3	0	0	3	3	10	40	50
EC 23.201	Electronics Devices and Circuits	3	0	0	3	3	10	40	50
EC 23.205	Principles of Electromagnetics	3	0	0	3	3	10	40	50
EE 23.203	Network Analysis and Synthesis	3	0	0	3	3	10	40	50
CS 23.203	Data Structures	3	0	0	3	3	10	40	50
CS 23.253	Data Structures Laboratory	0	0	2	1	2	50	-	50
EC 23.221	Electronics Devices and Circuits Laboratory	0	0	2	1	2	50	-	50
EE 23.223	Network Analysis and Synthesis Laboratory	0	0	2	1	2	50	-	50
CS 23.255	General Purpose Programming laboratory	0	0	2	1	2	50	-	50
PB 25.201	Project Based Learning	0	0	2	1	-	-	50	50
SF 201	Personal Grooming, Fine Dining and Home Safety (Non Graded)	0	0	2	1	2	50		50
Total		17	1	12	24				

Second Year -Spring Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
UC 25.201	Management and Entrepreneurship	2	0	0	2	2	10	40	50
UE	University Elective-I	3	0	0	3	3	20		80
EC 23.202	Digital Electronics	3	0	0	3	3	10	40	50
EC 23.204	Integrated Circuits and Applications	3	0	0	3	3	10	40	50
CS 23.204	Database Management Systems	3	0	0	3	3	10	40	50
CS 23.202	Advanced Programming	3	0	0	3	3	10	40	50
EC 23.222	Integrated Circuits and Applications Laboratory	0	0	2	1	2	50	-	50
CS 23.254	Database Management Systems Laboratory	0	0	2	1	2	50	-	50
EC 23.224	Digital Electronics Laboratory	0	0	2	1	2	50	-	50
CS 23.252	Advanced Programming Laboratory	0	0	2	1	2	50	-	50
PB 25.202	Project Based Learning	0	0	2	1	-	-	50	50
SF 202	Social Grooming and Professional Skills (Non Graded)	0	0	2	1	2	50		50
Total		17	0	10	22				

*Project Based Learning (PBL) will be conducted in the groups of 2-3 students.

Third Year - Autumn Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration	Weightage		
		L	T	P			CW	MTE	ETE
EC 23.301	Microprocessor and Microcontroller	3	0	0	3	3	10	40	50
EC 23.303	Principles of Analog Communication	3	0	0	3	3	10	40	50
EC 23.305	Signal Processing and Applications	3	0	0	3	3	10	40	50
EC 23.337	Cybernetics and its applications	3	0	0	3	3	10	40	50
	Program Elective-1**	0	0	0	3		Based on MOOC exam Score		
EC 23.321	Analog Communication Laboratory	0	0	2	1	2	50	-	50
EC 23.323	Digital Signal Processing Laboratory	0	0	2	1	2	50	-	50
EC 23.325	Microprocessor and Microcontroller Laboratory	0	0	2	1	2	50	-	50
EC 23.329	Summer Internship Project-1***	0	0	0	2	-	100		
EC 23.331	Project-1	0	0	4	2		-	50	50
GE 25.301	Proficiency (Non-Credit, Non-Graded)	-	-	-	1		100		
	Total	15	0	12	22				

Third Year -Spring Semester									
Course Code	Course Title	Contact Hours Per			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
EE 23.303	Control System Engineering	3	0	0	3	3	10	40	50
EC 23.302	VLSI Design	3	0	0	3	3	10	40	50
CS 23.302	Artificial Intelligence and Machine Learning	3	0	0	3	3	10	40	50
EC 23.306	Digital Communication	3	0	0	3	3	10	40	50
EC 23.308	Antenna & Wave Propagation	3	0	0	3	3	10	40	50
EC 23.318	Technical Seminar	0	0	2	1		100		
EC 23.322	VLSI Laboratory	0	0	2	1	2	50	-	50
EC 23.341	Artificial Intelligence and Machine Learning Laboratory	0	0	2	1	2	50	-	50
EC 23.324	Antenna Laboratory	0	0	2	1	2	50	-	50
EC 23.326	Digital Communication Laboratory	0	0	2	1	2	50	-	50
EC 23.328	Project-2	0	0	4	2		-	50	50
GE 25.302	Proficiency (Non-Credit, Non-Graded)	-	-	-	1		100		
	Total	15	0	16	22				

**The course may be taken through MOOC. NPTEL/SWAYAM/Coursera will be the authorized platform for MOOC course. A minimum 8 week duration is required to earn 3 credits. After successful completion of this MOOC course, the student shall provide the successful completion status/certificate to the University (COE) through HOD/NPTEL/Coursera coordinator.

***Summer Internship Project-1 will be carried out during the summer vacation, specifically between the end of the second year and the start of the third year.

Fourth Year - Autumn Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
UE	University Elective - II	3	0	0	3	3	20	-	80
	Program Elective-2	3	0	0	3	3	10	40	50
	Program Elective-3	3	0	0	3	3	10	40	50
EC 23.451	Capstone Project-1	0	0	4	2			50	50
EC 23.453	Summer Internship Project-2****	0	0	0	2		100		
Total					13				

Fourth Year - Spring Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
	Program Elective-4	3	0	0	3	3	10	40	50
	Program Elective-5	3	0	0	3	3	-	50	50
EC 23.452	Capstone Project-2			12	6		100		
Total					12				

Program Elective-1	
	MOOC
Program Elective-2	
CS 23.484	Big Data Analysis
CS 23.413	Distributed Databases
EC 23.457	Deep Learning: Principles and Practices
Program Elective-3	
EC 23.411	Transform Techniques
CS 23.431	Advanced Web Technologies
EC 23.461	Intelligent Robots and Drone Technology
Program Elective-4	
CS 23.493	Foundations and Applications of IoT
CS 23.495	Principles and Practices of Secure Computing
CS 23.465	Machine Learning using R
Program Elective-5	
CS 23.494	Software Defined Networking
EC 23.410	Adaptive Signal Processing
CS 23.464	Business Intelligence and its Application(Infosys)

****Summer Internship Project-2 will be carried out during the summer vacation, specifically between the end of the third year and the start of the fourth year.