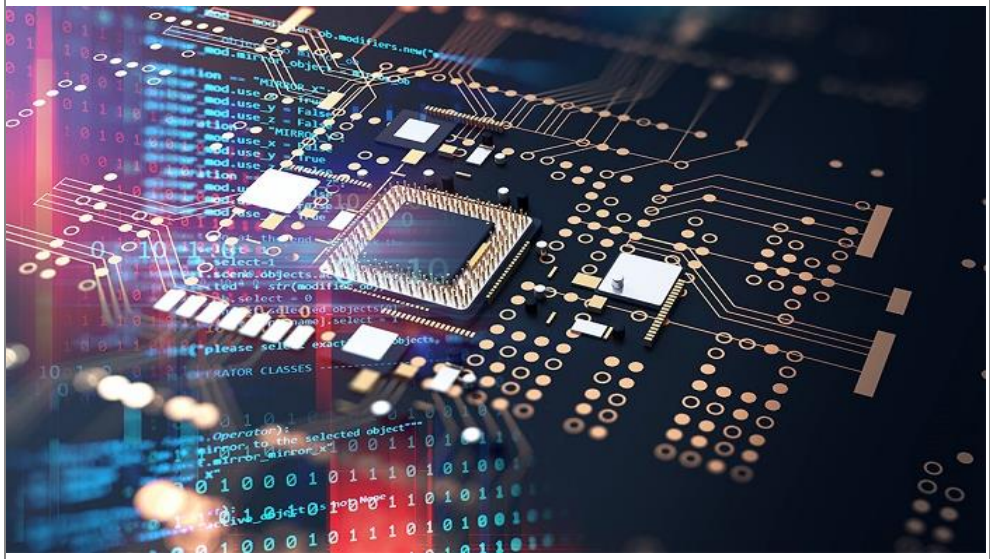
Implementation of National Education Policy (NEP) 2020 for the session 2024-25 B. Tech. Student of Electronics and Communication Engineering Department, NIST University

- Student centric flexible curriculum.
- Multi-disciplinary learning based curriculum.
- Ability Enhancement Compulsory course, Skill Enhancement Compulsory Course, Value Added Course, Product Design and Development, and Do It Yourself (DIY) are some of the significant features in the curriculum.
- Compulsory Internship.
- Multiple Exit and Multiple Entry

a. Certificate in Engineering after completion of first year.
b. Diploma in Engineering after completion of second year.
c. Advanced Diploma in Engineering after completion of third year.
d. Degree in Engineering after completion of fourth year.

Electronics and Communication Engineering Department, NIST University



Distribution of Credits across various Courses as per NEP 2020 Policy:

Credits Distribution across all Categories			
Name of the Subject	**Number of Theory Subjects**	**Number of Labs/ Practical's**	**Total Credits**
Basic Science	6 * 3 = 18	6 * 1 = 6	24
Engineering Science	(4 * 3 =) 12 + 1* 2=2=14	5 * 1 = 5	19
Human Science	3* 3 = 9	1*1 =1	10
Professional Core	13 * 3 = 39	11 * 1 = 11	50
Professional Elective	5 * 3 = 15	4 *1 = 4	19
Open Elective	3 * 3 =9	--	09
Skill Course + IDEA Lab + Engineering Graphics/ CADM	6* 1 =6	6* 1= 6	12
Internship	--	2 * 1	02
Mandatory Courses	4 * 0 = 0 + 1*1=1 = 1	---	01
Campus Recruitment Training Course (HS)	4 * 1 = 4	---	04
Project Work / Community Project Work	--	4 + 10 = 14	14
Total	48 Subjects	30 Labs	164**

Course Structure for Department of Electronics and Communication Engineering

First Year	Semester I							Semester II						
	Sl No	Course Code/ Category	Course Title	L	T	P	C	Sl No	Course Code/ Category	Course Title	L	T	P	C
	1	BS	Applied Physics	3	0	2	4	1	BS	Applied Chemistry	3	0	2	4
	2	BS	Mathematics - 1	3	0	2	4	2	BS	Mathematics -2	3	0	2	4
	3	ES	Basic Electrical Engineering	3	0	2	4	3	ES	Basic Electronics Engineering	3	0	2	4
	4	ES	Problem Solving with Programming	3	0	2	4	4	ES	Engineering Drawing and Design	3	0	2	4
	5	HS	English for Technical Writing	2	0	2	3	5	ES	Design Thinking	1	0	2	2
	6	SC	IDEA Lab	1	0	2	2	6	ES	Python Programming and Applications	2	0	2	3
	7	MC	Universal Human Values -2	1	0	0	1	7	MC	NCC / NSS / YOGA	0	0	2	1
	Contact Hours			**16**	**0**	**12**		**Contact Hours**			**15**	**0**	**14**	
	Total Credits						**22**	**Total Credits**						**22**

Course Structure for Department of Electronics and Communication Engineering

Second Year

Semester III

Sl No	Course Code/ Category	Course Title	L	T	P	C
1	BS	Mathematics-III	3	0	2	4
2	PC	Analog Electronics	3	0	2	4
3	PC	Network Theory	3	0	2	4
4	PC	Digital System Design	3	0	2	4
5	PC	Signal and Systems	2	0	2	3
6	HS	Campus Requirement Training Course-I	1	0	2	1
7	MC	Environmental Science and Engineering	1	0	0	0
8	SC	Data Structure using C	1	0	2	2
Contact Hours			**17**	**0**	**14**	
Total Credits						**22**

Semester IV

Sl No	Course Code/ Category	Course Title	L	T	P	C
1	BS	Biology for Engineers	3	0	2	4
2	PC	Analog and Digital Communication Techniques	3	0	2	4
3	PC	Control System Engineering	3	0	2	4
4	PC	Electromagnetic Theory	3	0	0	3
5	HS	Engineering Economics/ Organization Behaviour	3	0	0	3
6	SC	Object Oriented Programming using JAVA	1	0	2	2
7	HS	Campus Requirement Training Course-II	1	0	0	1
8	MC	Constitution of India	1	0	0	0
9	PR	Internship/mini project	0	0	2	1
Contact Hours			**18**	**0**	**10**	
Total Credits						**22**

Course Structure for Department of Electronics and Communication Engineering

Third Year

Semester V

Sl No	Course Code/Category	Course Title	L	T	P	C
1	PC	Digital Signal Processing	3	0	2	4
2	PC	Microcontroller and Applications	3	0	2	4
3	PC	Digital VLSI Design	3	0	2	4
4	PE	Mobile Communication/Information Theory and Security/Electronic Device Modeling	3	0	2	4
5	OE	Introduction to Information Theory/Fundamental of Digital System Design/ Radar System Engineering	3	0	0	3
6	SC	IoT Based Embedded System Design	1	0	2	2
7	HS	Campus Recruitment Training	1	0	0	1
8	MC	Essence of Indian Tradition Knowledge	1	0	0	0
Contact Hours			**18**	**0**	**10**	
Total Credits						**22**

Semester VI

Sl No	Course Code/ Category	Course Title	L	T	P	C
1	PC	Microwave Engineering	3	0	2	4
2	PC	Computer Network and Data Communication	3	0	2	4
3	PE	Artificial Intelligence/FPGA Based Design/Digital Image Processing	3	0	2	4
4	PE	5G and Future Communications/Satellite Communication/Analog VLSI Design/	3	0	0	3
5	OE	Fundamental of Satellite Communication/Introduction to Digital VLSI/Embedded System Design	3	0	0	3
6	SC	Lab based Project	1	0	2	2
7	HS	Campus Recruitment Training	1	0	0	1
8	MC	Business communication and interview skill	1	0	0	0
9	PR	Internship	0	0	2	1
Contact Hours			**18**	**0**	**10**	
Total Credits						**22**

Course Structure for Department of Electronics and Communication Engineering

Fourth Year

Semester VII

Sl No	Course Code/ Category	Course Title	L	T	P	C
1	PC	Internet of Things (IoT)	3	0	2	4
2	PE	Machine Learning/Radar Engineering/Embedded Real-Time Systems/FPGA-based Design	3	0	2	4
3	PE	Electronic Design Automation /Mobile Computing/ Optical Communication/ Wireless Communication Network	3	0	0	4
	OE	Principles of Mobile Communication/Internet of Things (IoT)/Wireless Communication Network	3	0	0	3
5	HS	Entrepreneurship Development	3	0	0	3
6	PR	Project phase-I	0	0	8	4
Contact Hours			16	**0**	**12**	
Total Credits						**22**

Semester VIII

Sl No	Course Code/ Category	Course Title	L	T	P	C
1	PR	Project phase -II	0	0	20	10
Contact Hours			**0**	**0**	**20**	
Total Credits						**10**