

Bachelor of Technology: Electronics and Communication Engineering

B.Tech. / B.Tech. (Honours)

Structure of Programmes:

Credits required for graduation: 140

Credits required as essential distribution requirement: 120

Credits free to choose from anywhere (including from programme and specialization beyond minimum): 20

(Subject to meeting the pre-requisites).

For each programme

Programme: B.Tech (Electronics & Communication Engineering)

Specializations available: NA

University Core:

Minimum number of credits to be completed: 20

List of courses that comprise of University core:

Course code	Course title	Credits
ENG111	English Language Building	3
ENG121	Communication English	3
ENG211	Soft Skill & Professional Communication Skills	3
HUM311	One course on Humanities	2
ECE413	One course on Management for Engineers	3
HUM411	History of Uzbekistan 1	2
HMM421	Professional Ethics	2
HUM421	History of Uzbekistan 2	2

School Core:

Minimum number of credits to be completed: 44

List of courses that comprise of School core:

Course code	Course title	Credits
CSE111	Programming for Problem Solving	2
MTH111	Calculus	4

PHY111	Engineering Physics	4
EEE111	Principles of Electrical Engineering	1.5
ECE111	Basics of Electronics	1.5
EEE112	Principles of Electrical & Electronics Engineering Laboratory	1
ECE112	Introduction to Communication Engineering	1
CSE121	Object Oriented Programming Using Java	3
MTH122	Linear Algebra and Complex Variable	4
PHY121	Semiconductor Physics	2.5
CHY121	Engineering Chemistry	3.5
CSE214	Application based Programming in Python	2
MTH211	Differential Equation, Probability and Statistics	4
ECE411	Major Project- 1	2
ECE412	Internship Assessment	2
ECE421	Major Project - 2	6

Programme Core:

Minimum number of credits to be completed: 40

List of courses that comprise of Programme core:

Course code	Course title	Credits
ECE211	Digital System Design	4
ECE121	Creativity & Design for Engineers	2
ECE212	Network Analysis and synthesis	4
ECE213	Project Based Learning (PBL) -1	1
ECE221	Analog Electronic Circuits	4
ECE222	Analog Communication System	2
ECE223	Digital Communication System	3
ECE224	Microprocessor and Microcontroller with Interfacing	4
ECE225	Signals and Systems	3
ECE226	Project Based Learning (PBL) -2	1
ECE311	Introduction to VLSI	3
ECE312	Control Systems	3
ECE313	Project Based Learning (PBL) -3	1
ECE321	Digital Signal Processing	4
ECE322	Project Based Learning (PBL) -4	1

Electives:

Minimum number of elective credits to be completed for this degree: 36

Minimum number of credit for Program elective: 24

List of courses that comprise of Department Electives relevant to this degree:

Course code	Course title	Credits
ECE371	Linear Integrated Circuit (2-0-2)	3
ECE372	Advanced Digital VLSI Circuit Design and Simulation (2-0-2)	3
ECE373	Advanced Digital System Design using VHDL/Verilog(2-0-2)	3
ECE374	CMOS Analog and Mixed Signal Design (3-0-0)	3
ECE375	FPGA Design and Prototyping (2-0-2)	3
ECE376	VLSI verification using system verilog (2-0-2)	3
ECE377	RTL Synthesis (2-0-2)	3
ECE378	VLSI Verification Methodologies (2-0-2)	3
ECE379	Digital VLSI Testing (3-0-0)	3
ECE381	CMOS RF IC Design (3-0-0)	3
ECE382	DSP Processor and Architecture (3-0-0)	3
ECE383	MEMS (3-0-0)	3
ECE384	VLSI Signal Processing (3-0-0)	3
ECE385	Nanoelectronics (3-0-0)	3
ECE386	Analog and Mixed-signal VLSI Testing (3-0-0)	3
ECE387	IC Fabrication Technology (3-0-0)	3
ECE388	Real Time Embedded Systems (2-0-2)	3
ECE389	LINUX System Programming (2-0-2)	3
ECE471	Device Driver and Kernel Programming (2-0-2)	3
ECE472	Development of IoT (2-0-2)	3
ECE473	Wireless Sensors Network (2-0-2)	3
ECE473	Electronics Measurement & Instrumentation (2-0-2)	3
ECE474	Robotics and Its Applications (2-0-2)	3
ECE475	Drone Technology (2-0-2)	3
ECE476	Biomedical Signal and Image Processing (2-0-2)	3
ECE477	Artificial Intelligence (3-0-0)	3
ECE478	Electromagnetic Field Theory (3-0-0)	3
ECE479	Microwave and Radar Engineering (3-0-0)	3
ECE481	Wireless and Mobile Communication (3-0-0)	3
ECE482	LTE Communication Technology (2-0-2)	3
ECE483	Optical Communication (2-0-2)	3
ECE484	CCNA Routing and Switching (2-0-2)	3
ECE485	Network security and Cryptography (3-0-0)	3
ECE486	Antenna and Wave Propagation (3-0-0)	3
ECE487	Satellite Communication (3-0-0)	3
ECE488	Information Theory and Coding (3-0-0)	3
ECE489	Remote Sensing (3-0-0)	3

Sample Curriculum Plan B.Tech ECE Batch 2019-2023

SEMESTER 1

S. No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	SC	CSE111	Programming for Problem Solving	0	0	4	2
2	SC	MTH111	Calculus	3	1	0	4
3	SC	PHY111	Engineering Physics	3	0	2	4
4	SC	EEE11	Principles of Electrical Engineering	1.5	0	0	1.5
	SC	ECE111	Basics of Electronics	1.5	0	0	1.5
5	SC	EEE112	Principles of Electrical & Electronics Engineering Laboratory	0	0	2	1
6	SC	ECE112	Introduction to Communication Engineering	1	0	0	1
7	UC	ENG111	English Language Building Skills	3	0	0	3
			TOTAL	13.0	1.0	8.0	18.0

SEMESTER 2

S. No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	SC	CSE121	Object Oriented Programming Using Java	2	0	2	3
2	SC	MTH122	Linear Algebra and Complex variables	3	1	0	4
3	SC	PHY121	Semiconductor Physics	2	0	1	2.5
4	SC	CHY121	Engineering Chemistry	3	0	1	3.5
5	PC	ECE121	Creativity & Design for Engineers	2	0	0	2
6	UC	ENG121	Communication English	3	0	0	3
			TOTAL	15.0	1.0	4.0	18.0

SEMESTER 3

S.No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	PC	ECE211	Digital System Design	3	0	2	4
2	SC	ECE212	Network Analysis and synthesis	2	1	0	3
3	PC	CSE214	Application based Programming in Python	0	0	4	2
4	UC	MTH211	Differential equation, Probability and Statistics	3	1	0	4
5	SC	ENG211	Soft Skill and Professional Communication Skill	3	0	0	3
6	PC	ECE213	Project Based Learning (PBL) -1	0	0	2	1
			TOTAL	11	2	8	17

SEMESTER 4

S.No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	PC	ECE221	Analog Electronic Circuits	3	0	2	4
2	PC	ECE222	Analog Communication System	1.5	0.5	0	2
3	PC	ECE223	Digital Communication System	2	0	2	3
4	PC	ECE224	Microprocessor and Microcontroller with Interfacing	3	0	2	4
5	PC	ECE225	Signals and Systems	3	0	0	3
6	PC	ECE226	Project Based Learning (PBL) -2	0	0	2	1
			TOTAL	12.5	0.5	8	17

SEMESTER 5

S.No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	PC	ECE311	Introduction to VLSI	3	0	0	3
2	PC	ECE312	Control Systems	3	0	2	4
3	PE	HUM311	One course on Humanities	2	0	0	2
4	PE		Program Elective-1	3	0	0	3
5	OE		Program Elective-2	3	0	0	3
6	PC		Elective – 1	2	0	0	2
7	UC	ECE313	Project Based Learning (PBL) -3	0	0	2	1
			TOTAL	16	0	4	18

SEMESTER 6

S.No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	PC	ECE321	Digital Signal Processing	3	0	2	4
2	PC		Program Elective-3	3	0	0	3
3	PE		Program Elective-4	3	0	0	3
4	PE		Program Elective-5	3	0	0	3
5	PE		Elective – 2	2	0	0	2
6	OE		Elective – 3	2	0	0	2
7	OE	ECE322	Project Based Learning (PBL) -4	0	0	2	1
			Total	16	0	4	18

SEMESTER 7

S.No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	PE		Program Elective-6	3	0	0	3
2	PE		Program Elective-7	3	0	0	3
3	OE		Elective - 4	2	0	0	2
4	SC	ECE411	Major Project- 1	0	0	4	2
5	SC	ECE412	Internship Assessment	0	0	4	2
6	UC	ECE413	One course on Management for Engineers	3	0	0	3
7	UC	HUM411	History of Uzbekistan 1	2	0	0	2
			TOTAL	13	0	8	17

SEMESTER 8

S.No.	Course Type (Code)	Course Code	Course Title	L	T	P	C
1	SC	ECE421	Major Project - 2	0	0	10	6
2	PE		Program Elective-8	3	0	0	3
3	OE		Elective - 5	2	0	0	2
4	UC	HMM421	Professional Ethics	2	0	0	2
5	UC	HUM421	History of Uzbekistan 2	2	0	0	2
6	OE		Elective -6	2	0	0	2
			TOTAL				17