

Higher Semester Schemes

B. Tech. Electronics & Communication Engineering

Total Credit: 160

Third Semester						Fourth Semester					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
MAS2001	Statistics & Probability	3	0	0	3	MEE2001	Engineering Economics	3	0	0	3
MBB21XX	Management of Technology	3	0	0	3	ECE2201	Electronic Devices-II	4	0	0	4
ECE2101	Electronic Devices-I	3	1	0	4	ECE2202	Computer & Processor Architecture	3	1	0	4
ECE2102	Digital Electronics	3	1	0	4	ECE22XX	Flexi Core 2	3	0	2	4
ECE2103	Signals and systems	3	1	0	4	ECE22XX	Program Elective 1	3	0	0	3
ECE21XX	Flexi Core 1	3	0	2	4	XXX00XX	Open Elective 1	3	0	0	3
ECE2130	Electronic devices Lab-I	0	0	2	1	ECE2230	SPICE Lab	0	0	2	1
ECE2131	Digital Electronics Lab	0	0	2	1	ECE2231	Computer & Processor Architecture Lab	0	0	2	1
ECE2170	Project-based Learning 1	0	0	2	1	ECE2270	Project-based Learning 2	0	0	2	1
	Total	18	3	8	25		Total	19	1	8	24
	Total Contact Hours (L+T+P)	29 Hours					Total Contact Hours (L+T+P)	28 Hours			
Fifth Semester						Sixth Semester					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
ECE3101	Digital VLSI Design	3	1	0	4	ECE3201	Optical Communication	3	1	0	4
ECE3102	Analog and Digital Communication	3	1	0	4	ECE32XX	Program Elective 4	3	0	0	3
ECE31XX	Flexi Core 3	3	0	2	4	ECE32XX	Program Elective 5	3	0	0	3
ECE31XX	Program Elective 2	3	0	0	3	ECE32XX	Program Elective 6	3	0	0	3
ECE31XX	Program Elective 3	3	0	0	3	XXX00XX	Open Elective 3	3	0	0	3
XXX00XX	Open Elective 2	3	0	0	3	ECE3210	Professional Practice	0	0	0	1
ECE3130	IC Design Lab	0	0	2	1	ECE3230	Optical Communication Lab	0	0	2	1
ECE3131	Communication System Lab	0	0	2	1	ECE3231	Advanced System Design Lab	0	0	2	1
ECE3170	Project-based Learning 3	0	0	2	1	ECE3270	Project-based Learning 4	0	0	6	3
	Total	18	2	8	24		Total	15	1	10	22
	Total Contact Hours (L+T+P)	28 Hours					Total Contact Hours (L+T+P)	26 Hours			
Seventh Semester						Eighth Semester					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
ECE41XX	Program Elective 7	3	0	0	3	ECE4270	Major Project	0	0	0	12
ECE41XX	Program Elective 8	3	0	0	3						
XXX00XX	Open Elective 4	3	0	0	3						
XXX00XX	Open Elective 5	3	0	0	3						
ECE4170	Internship (Industry or Research)	0	0	0	1						
	Total	12	0	0	13		Total	0	0	0	12
	Total Contact Hours (L+T+P)	12 Hours					Total Contact Hours (L+T+P)				

Flexi Core

Flexi Core 1	Flexi Core 2	Flexi Core 3
1. ECE2120: Circuits & network theory 2. ECE2121: Linear Integrated circuits	1. ECE2220: System Design using HDL 2. ECE2221: Electromagnetic field theory	ECE3120: Antennas ECE3121: Microcontroller and applications

Program Electives			
IV	V	VI	VII
Program Elective 1 - ECE2240: Data Structures & Algorithms - ECE2241: Optical Components and Sensors - ECE2242: Fundamentals of telecommunications	Program Elective 2 - ECE3140: Digital Signal Processing - ECE3141: Semiconductor device Fabrication - ECE3142: Nanophotonics Program Elective 3 - ECE3143: Design for Testability - ECE3144: Radar & Satellite Communication - ECE3145: Control Theory	Program Elective 4 - ECE3240: VLSI physical design - ECE3241: Wireless Communication - ECE3242: Digital Image Processing Program Elective 5 - ECE3243: Microwave Engineering - ECE3244: Embedded Systems - ECE3245: Advanced Error Control Codes Program Elective 6 - ECE3246: Low Power VLSI design - ECE3247: Computer Networks - ECE3248: System-on-Chip Design	Program Elective 7 - ECE4140: Fundamentals of Quantum Optics - ECE4141: Mobile Communication & 5G Networks - ECE4142: Adaptive Signal Processing - ECE4143: Internet of Things Program Elective 8 - ECE4144: Millimeter wave Communication - ECE4145: Optical Networks - ECE4146: Wireless Sensors Networks - ECE4147: Machine Learning

Open Electives

Graded OE	Non-Graded OE
OE1 ECE0001: Introduction to Communication Systems OE2 ECE0002: Introduction to game theory OE3 ECE0003: Stress free living (in collaboration with Abhigya Club & faculty from Hare Krishna movement)	OE1 ECE0051: Excel fundamentals for data analysis OE2 ECE0052: Introduction to Word Processing

B. Tech. (Hons) Electronics & Communication Engineering**Total Credit: 178 (160 + 18*)**

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Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C		
MAS2001	Statistics & Probability	3	0	0	3	MEE2001	Engineering Economics	3	0	0	3		
MBB21XX	Management of Technology	3	0	0	3	ECE2201	Electronic Devices-II	4	0	0	4		
ECE2101	Electronic Devices-I	3	1	0	4	ECE2202	Computer & Processor Architecture	3	1	0	4		
ECE2102	Digital Electronics	3	1	0	4	ECE22XX	Flexi Core 2	3	0	2	4		
ECE2103	Signals and systems	3	1	0	4	ECE22XX	Program Elective 1	3	0	0	3		
ECE21XX	Flexi Core 1	3	0	2	4	XXX00XX	Open Elective 1	3	0	0	3		
ECE2130	Electronic devices Lab-I	0	0	2	1	ECE2230	SPICE Lab	0	0	2	1		
ECE2131	Digital Electronics Lab	0	0	2	1	ECE2231	Computer & Processor Architecture Lab	0	0	2	1		
ECE2170	Project-based Learning 1	0	0	2	1	ECE2270	Project-based Learning 2	0	0	2	1		
		18	3	8	25			19	1	8	24		
	Total Contact Hours (L+T+P)	29					Total Contact Hours (L+T+P)	28					
Fifth Semester							Sixth Semester						
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ECE3101	Digital VLSI Design	3	1	0	4	ECE3201	Optical Communication	3	1	0	4		
ECE3102	Analog and Digital Communication	3	1	0	4	ECE32XX	Program Elective 4	3	0	0	3		
ECE31XX	Flexi Core 3	3	0	2	4	ECE32XX	Program Elective 5	3	0	0	3		
ECE31XX	Program Elective 2	3	0	0	3	ECE32XX	Program Elective 6	3	0	0	3		
ECE31XX	Program Elective 3	3	0	0	3	XXX00XX	Open Elective 3	3	0	0	3		
XXX00XX	Open Elective 2	3	0	0	3	ECE3210	Professional Practice	0	0	0	1		
ECE3130	IC Design Lab	0	0	2	1	ECE3230	Optical Communication Lab	0	0	2	1		
ECE3131	Communication System Lab	0	0	2	1	ECE3231	Advanced System Design Lab	0	0	2	1		
ECE3170	Project-based Learning 3	0	0	2	1	ECE3270	Project-based Learning 4	0	0	6	3		
ECE3180*	Research Methodology	0	0	2	1	ECE3280*	Hons. Elective 1	3	0	0	3		
		18	2	10	25			18	1	10	25		
	Total Contact Hours (L+T+P)	30					Total Contact Hours (L+T+P)	29					
Seventh Semester							Eighth Semester						
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C		
ECE41XX	Program Elective 7	3	0	0	3	ECE427X	Major Project	0	0	0	12		
ECE41XX	Program Elective 8	3	0	0	3	ECE4280*	Honors Project	0	0	0	8		
XXX00XX	Open Elective 4	3	0	0	3								
XXX00XX	Open Elective 5	3	0	0	3								
ECE417X	Internship (Industry or Research)	0	0	0	1								
ECE4180*	Hons. Elective 2	3	0	0	3								
ECE4181*	Hons. Elective 3	3	0	0	3								
		18	0	0	19						20		
	Total Contact Hours (L+T+P)	18 Hours					Total Contact Hours (L+T+P)						

Flexi Core

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3. ECE2120: Circuits & network theory 4. ECE2121: Linear Integrated circuits	3. ECE2220: System Design using HDL 4. ECE2221: Electromagnetic field theory	1. ECE3120: Antennas 2. ECE3121: Microcontroller and applications

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Hons. Electives
VI / VII
- ECE3280: Analog VLSI Design - ECE4180: System Verilog for verification - ECE4181: Scripting language for VLSI