

SR UNIVERSITY
Department of Electronics and Communication Engineering
R25 Course Structure

I SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE312PC101	Electronic Devices and Circuits	3	1	2	4.5
2	25MAT310BS107	Calculus and Differential Equations	3	1	0	3.5
3	25SCI312BS102	Applied Physics for Electronics and Communication Engineering	3	1	2	4.5
4	25HUM204HS101	Life Skills: Entrepreneurship, Language, Communication and Personality	2	0	4	4
5	25HUM300HS102	Ancient Knowledge and Constitution of India	3	0	0	3
Total			14	3	8	19.5
II SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE402PC102	Digital Electronics	4	0	2	5
2	25ECE104ES102	Smart Product Design	1	0	4	3
3	25ECE310ES103	Network Theory	3	1	0	3.5
4	25MAT310BS108	Linear Algebra and Numerical Methods	3	1	0	3.5
5	25MAT310BS109	Probability and Statistics	3	1	0	3.5
6	25SCI202BS106	Computational Chemistry and Biology	2	0	2	3
7		Hobbies, Co-Curricular and Extra-Curricular Elective	0	0	2	1
Total			16	3	10	22.5
III SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE312PC201	Analog Circuit Analysis	3	1	2	4.5
2	25ECE402PC202	Signals and Systems	4	0	2	5
3	25ECE300PC203	Random Variables and Stochastic Process	3	0	0	3
4	25ECE310PC204	Control Systems	3	1	0	3.5
5	25CAI214ES210	Problem Solving using Python	2	1	4	4.5
6		Specialization Core - I	3	0	2	4
Total			18	3	10	24.5
IV SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE302PC205	Microcontrollers and Applications	3	0	2	4
2	25ECE310PC206	Electromagnetic Waves	3	1	0	3.5
3	25ECE402PC207	Analog and Digital Communications	4	0	2	5
4	25ECE302PC208	Principles of Integrated Circuits	3	0	2	4
5		Open Elective - I	3	0	0	3
6		Program Elective - I	2	0	2	3
Total			18	1	8	22.5

V SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE302PC301	Antenna and Wave Propagation	3	0	2	4
2	25ECE302PC302	Microelectronics for Semiconductor IC Design	3	0	2	4
3	25ECE302ES301	AI for Electronics Engineering	3	0	2	4
4		Specialization Core - II	3	0	2	4
5	25HUM006HS202	Quantitative Aptitude and Logical Reasoning	0	0	6	3
6	25CIV200HS301	Sustainability and Ethical Innovation	2	0	0	2
Total			14	0	14	21
VI SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE402PC303	Digital Signal Processing	4	0	2	5
2	25ECE302PC304	Wireless Communication	3	0	2	4
3	25ECE302PC305	Embedded Systems	3	0	2	4
4	25ECE002PR301	Undergraduate Research in Electronics and Communication Engineering	0	0	2	1
5		Specialization Elective - I	2	0	2	3
6	25HUM104HS201	Critical Thinking and Interpersonal Skills	1	0	4	3
Total			13	0	14	20
VII SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1		Program Elective - II	2	0	2	3
2		Program Elective - III	2	0	2	3
3		Program Elective - IV	2	0	2	3
4		Open Elective - II	3	0	0	3
5	25ECE010PR401	Capstone Project	0	0	10	5
6		Specialization Elective - II	2	0	2	3
Total			11	0	18	20
Or						
1	25ECE040PR402	Industrial Project/ R&D Project/ Industry Internship/Start-up/Externship	0	0	40	20
Total			0	0	40	20
VIII SEM						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
1	25ECE040PR403	Major Project/Industrial Project/ R&D Project/ Industry Internship/Start-up/Externship	0	0	40	20
Total			0	0	40	20

Program Electives						
S.No.	Course Code	Course	Hours / Week			
			L	R	P	C
Program Elective - I						
1	25ECE300PE401	Optical Fiber Communication	3	0	0	3
2	25ECE202PE402	Biomedical Instrumentation	2	0	2	3
Program Elective - II						
3	25ECE202PE403	Radar Systems	2	0	2	3
4	25ECE300PE404	Satellite Communication	3	0	0	3
Program Elective - III						
5	25ECE300PE405	Microwave Engineering	3	0	0	3
6	25ECE202PE406	Data Communication	2	0	2	3
Program Elective - IV						
7	25ECE202PE407	Smart Sensors and Intelligent Instrumentation	2	0	2	3
8	25ECE202PE408	Object Oriented Programming in JavaScript	2	0	2	3
Very Large Scale Integration (VLSI) Specialization Core						
1	25ECE302SC201	Hardware Modeling using Verilog	3	0	2	4
2	25ECE302SC301	Low Power VLSI	3	0	2	4
Artificial Intelligence and Machine Learning (AIML) Specialization Core						
1	25ECE302SC202	Natural Language Processing	3	0	2	4
2	25ECE302SC302	Generative AI	3	0	2	4
Very Large Scale Integration (VLSI) Specialization Electives						
Specialization Elective - I						
1	25ECE202SE401	System on Chip Design	2	0	2	3
2	25ECE300SE402	RF IC Design	3	0	0	3
Specialization Elective - II						
3	25ECE202SE403	ASIC Design	2	0	2	3
4	25ECE300SE404	Analog IC Design	3	0	0	3
Artificial Intelligence and Machine Learning (AIML) Specialization Electives						
Specialization Elective - I						
1	25ECE202SE405	Data Science	2	0	2	3
2	25ECE202SE406	Quantum Computing	2	0	2	3
3	25ECE300SE407	Ethics and Regulation in AI	3	0	0	3
Specialization Elective - II						
4	25ECE202SE408	Explainable AI	2	0	2	3
5	25ECE202SE409	Reinforcement Learning	2	0	2	3
Robotics and Automation Specialization						
Specialization Core						
1	25MEC302SC202	Robotics and Automation	3	0	2	4
2	25MEC302SC302	Robotic System Design	3	0	2	4
Specialization Elective - I (Robotics and Automation)						
1	25MEC300SE303	Sensors and Control for Robotics	3	0	0	3
2	25MEC300SE304	AI in Robotics	3	0	0	3
Specialization Elective - II (Robotics and Automation)						
1	25MEC300SE403	Robotics Operating System	3	0	0	3
2	25MEC300SE404	Machine Vision and Safety	3	0	0	3

Honors						
III Sem						
1	25ECE400HN401	MEMS and Its Application	4	0	0	4
IV Sem						
2	25ECE400HN402	IC Design and Verification Techniques	4	0	0	4
V Sem						
3	25ECE302HN403	Digital IC Design	3	0	2	4
VI Sem						
4	25ECE302HN404	5G Technologies	3	0	2	4
Minors						
III Sem						
1	25ECE400MN401	Digital System Design Using HDL	4	0	0	4
IV Sem						
1	25ECE400MN402	Analog Communication	4	0	0	4
V Sem						
1	25ECE400MN403	Digital Communication	4	0	0	4
VI Sem						
1	25ECE302MN404	Information Theory and Coding	3	0	2	4

Hobbies, Co-Curricular and Extra-Curricular (HCE) Electives						
S.No.	Course Code	Course	L	R	P	C
1	25HUM002AU401	Community Engagement and Social Responsibility through NSS	0	0	2	1
2	25HUM002AU402	Leadership and Collaboration through Student Clubs	0	0	2	1
3	25HUM002AU403	Physical Education and Sports for Holistic Development	0	0	2	1
4	25HUM002AU404	Experiential Learning through Internships	0	0	2	1
5	25HUM002AU405	Skill Enrichment and Creativity through Hobby Activities	0	0	2	1
6	25HUM002AU406	Visual Storytelling and Documentation through Photography	0	0	2	1
7	25HUM002AU407	Skill Acceleration and Applied Learning through Boot Camps	0	0	2	1
8	25HUM002AU408	Indian Classical Music	0	0	2	1
9	25HUM002AU409	Classical and Folk Dance Traditions of India	0	0	2	1
10	25HUM002AU410	Traditional Indian Culinary Practices	0	0	2	1
In Special Cases Open Electives, Program Electives, Specialization Electives may be considered						
Flexible Courses for Open Electives and Professional Electives						
S.No.	Course Code	Course	L	R	P	C
1	25HUM202CR401	Industry Certification	2	0	2	3
2	25HUM300CR402	Professional Skill Development	3	0	0	3
3	25HUM300CR403	Self-Paced Learning	3	0	0	3
Minor Courses offered by NEST						
S.No.	Course Code	Course	L	R	P	C
1	25BUS400MN401	Startup Garage	4	0	0	4
2	25BUS400MN402	Startup Launch and Business Operation	4	0	0	4
3	25BUS400MN403	Digital Marketing Strategy	4	0	0	4
4	25BUS400MN404	Growth Hacking	4	0	0	4
Open Electives						
S.No.	Course Code	Course	L	R	P	C
1	25CAI202OE401	Fundamentals of Database Management Systems	2	0	2	3
2	25CAI202OE402	Fundamentals of Data Structures	2	0	2	3
3	25CAI202OE403	Analysis and Design of Algorithms	2	0	2	3
4	25ECE300OE404	Principles of Communication	3	0	0	3
5	25ECE300OE405	Sensors and Transducers	3	0	0	3
6	25ECE300OE406	Design for Social Impact	3	0	0	3
7	25EEE300OE407	Introduction to Electric Vehicle Technologies	3	0	0	3
8	25EEE202OE408	Introduction to PLC Programming	2	0	2	3
9	25MEC300OE409	Operations Research	3	0	0	3
10	25MEC300OE410	3D Printing	3	0	0	3
11	25MEC300OE411	Renewable Energy Resources	3	0	0	3
12	25MEC104OE412	Workshop Practices	1	0	4	3
13	25CIV300OE413	Disaster Management	3	0	0	3
14	25CIV300OE414	Pollution and Control Engineering	3	0	0	3
15	25CIV300OE415	Smart Cities	3	0	0	3
16	25BUS300OE416	Digital Marketing	3	0	0	3
17	25BUS300OE417	Startup Launch and Ecosystems	3	0	0	3
18	25BUS300OE418	Finance for Engineers	3	0	0	3
19	25SCI202OE419	Space Physics	2	0	2	3
20	25SCI202OE420	Nanomaterials and Technology	2	0	2	3
21	25SCI202OE421	AI for Drug Discovery	2	0	2	3

CSE

ECE

EEE

ME

CE

SoB

Basic Science

22	25MAT300OE422	Integral Transforms and Partial Differential Equations	3	0	0	3	Math
23	25MAT300OE423	Optimization Techniques	3	0	0	3	
24	25HUM202OE424	LSRW Language Skills	2	0	2	3	English
25	25HUM300OE425	Learning How to Learn	3	0	0	3	
26	25HUM300OE426	German for Professionals	3	0	0	3	
27	25HUM300OE427	Japanese Language and Culture	3	0	0	3	
28	25HUM300OE428	Spanish for Global Work Place	3	0	0	3	
29	25NCC300OE429	NCC Foundation course	3	0	0	3	N
30	25NCC300OE430	NCC Basic course	3	0	0	3	C
31	25NCC300OE431	NCC Advanced Course	3	0	0	3	C
In Special Cases Open Electives may be considered as Program Electives							
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In Special Cases Program Electives may be considered as Specialization Electives							
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In Special Cases Specialization Electives may be considered as Open Electives							
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In Special Cases Open Electives may be considered as LHS Electives							
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