

Department of Electronics and Communication Engineering

B.Tech. Electronics and Communication Engineering Curriculum

(Applicable to the students admitted from AY: 2023 onwards)



**School of Engineering and Sciences
SRM University AP, Andhra Pradesh**

ABBREVIATIONS	
AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
FIC	Foundation & Interdisciplinary Courses
OE	Open Elective
RDIP	Research / Design / Industrial Practice / Project / Thesis / Internship
CE	Core Elective
CC	Core Course
SE	Stream Elective
TE	Technical Elective

SEMESTER - I							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Art of Listening, Speaking and Reading Skills	1	0	1	2
2	VAC	U VAC	Universal Human Values and Ethics	2	0	0	2
3	SEC	S SEC	Analytical Reasoning and Aptitude Skills	3	0	0	3
4	FIC	S FIC	Engineering Physics	2	0	1	3
5	FIC	S FIC	Calculus For Engineers	3	0	0	3
6	FIC	S FIC	Fundamentals of Computing and Programming in C	3	0	1	4
7	FIC	S FIC	Emerging Technologies	2	0	0	2
Semester Total				16	0	3	19

SEMESTER – II							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Effective Writing and Presentation Skills	1	0	1	2
2	VAC	U VAC	Environmental Science	2	0	0	2
3	SEC	S SEC	Entrepreneurial Mindset	2	0	0	2
4	FIC	S FIC	Linear Algebra and Differential Equations	3	0	0	3
5	FIC	S FIC	Principles of Economics and Management	3	0	0	3
6	Core	CC	Fundamentals of Electrical Circuits	3	0	1	4
7	Core	CC	Microelectronic Devices and Circuits	3	0	1	4
Semester Total				17	0	3	20

SEMESTER - III							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Problem Solving Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	D SEC	Data Structures	2	0	1	3
5	Core	CC	Digital Design with HDL	3	0	1	4
6	Core	CC	Signals and Systems	3	0	1	4
7	Core	CC	Probability and Random Processes	3	0	0	3
8	Core	CC	Design and Analysis of Analog, Mixed Signal Circuits	3	0	1	4
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				18	0	9	23

SEMESTER – IV							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Creativity and Critical thinking Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	D SEC	Hands on with Python and Raspberry PI	2	0	1	3
5	Core	CC	Principles of Modern Communication Systems	3	0	1	4
6	Core	CC	Digital Signal Processing	3	0	1	4
7	Core	CC	Control Systems	2	1	0	3
8	Core	CC	AI/ML for Electronics Engineers	3	0	1	4
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				17	1	9	23

SEMESTER – V							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
2	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
3	SEC	E SEC	Career Skill - I	2	0	1	3
4	Core	CC	Basic CMOS VLSI Design	3	0	1	4
5	Core	CC	Wireless Communications	3	0	1	4
6	Core	CC	Microprocessors and Microcontrollers	3	0	1	4
7	Core	CC	Electromagnetics and Wave Propagation	3	0	0	3
8	Core	CC	Internet of Things	2	0	1	3
9	RDIP	RDIP	Internship	0	0	0	4
10	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				19	0	9	28

SEMESTER – VI							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2
2	SEC	E SEC	Career Skill - II	2	0	1	3
3	Core	CC	Antenna Design	2	0	1	3
4	Core	CC	Embedded System for Design	3	0	1	4
5	Elective	CE/SE	Core/Specialization Elective	3	0	1	3
6	Elective	CE/SE	Core/Specialization Elective	3	0	1	3
7	SEC	D SEC	Coding skills-II	1	0	1	2
Semester Total				14	0	8	20

SEMESTER - VII							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE/SE	Core/Specialization Elective	3	0	0	3
2	Elective	CE/SE	Core/Specialization Elective	3	0	0	3
3	Elective	CE/SE	Core/Specialization Elective	3	0	0	3
4	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				12	0	0	12

SEMESTER – VIII							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Major Project	0	0	9	9
2	Elective	OE	Open elective	3	0	0	3
Semester Total				3	0	9	12

Specialization: Embedded Systems and IoT							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE/SE	Embedded Programming	2	0	1	3
2	Elective	CE/SE	RTOS	2	0	1	3
3	Elective	CE/SE	Embedded Networking	2	0	1	3
4	Elective	CE/SE	IoT Architecture and Protocols	2	0	1	3
5	Elective	CE/SE	SOC Design for IoT	3	0	0	3
6	Elective	CE/SE	FPGA-based Embedded System Design	2	0	1	3
7	Elective	CE/SE	Embedded Systems for Electric Vehicles	3	0	0	3

SPECIALIZATION: VLSI DESIGN							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE/SE	VLSI Physical Design	3	0	0	3
2	Elective	CE/SE	Advanced CMOS Digital IC Design	3	0	0	3
3	Elective	CE/SE	CMOS RFIC Design	3	0	0	3
4	Elective	CE/SE	Design Verification and Testing	3	0	0	3
5	Elective	CE/SE	Nanoelectronics	3	0	0	3
6	Elective	CE/SE	CAD for VLSI IC Design	3	0	0	3
7	Elective	CE/SE	Semiconductor Device Modelling	3	0	0	3

SPECIALIZATION: ADVANCED COMMUNICATION SYSTEMS

S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE/SE	Advanced Wireless Communication Systems(5G/6G)	3	0	0	3
2	Elective	CE/SE	Quantum Communications	3	0	0	3
3	Elective	CE/SE	Information Theory and Coding	3	0	0	3
4	Elective	CE/SE	Optical communication	3	0	0	3
5	Elective	CE/SE	Computer Networks and Internet Protocols	3	0	0	3
6	Elective	CE/SE	Detection and Estimation theory	3	0	0	3
7	Elective	CE/SE	Satellite communication	3	0	0	3

SPECIALIZATION: ADVANCED SIGNAL PROCESSING WITH AI/ML

S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE/SE	Advanced Signal Processing	3	0	0	3
2	Elective	CE/SE	Deep Learning	2	0	1	3
3	Elective	CE/SE	Image Processing and Computer Vision	3	0	0	3
4	Elective	CE/SE	Biomedical Signal Processing	3	0	0	3
5	Elective	CE/SE	Detection and Estimation Theory	3	0	0	3
6	Elective	CE/SE	Digital Speech Processing	3	0	0	3
7	Elective	CE/SE	Pattern recognition	2	0	1	3

Open Electives

S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	OE	Embedded Programming	3	0	0	3
2	Elective	OE	Computer Network and Internet Protocol	3	0	0	3

Career Skills

S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	SEC	ARM Programming	2	0	1	3
2	SEC	SEC	Data Structures Algorithms	3	0	0	3
3	SEC	SEC	Coding Skills I	2	0	1	3