



SRI KRISHNA COLLEGE OF ENGINEERING & TECHNOLOGY

**DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING**

**CURRICULUM
DESIGNED FOR
REGULATION 2017**

**Applicable for students admitted from
2017-2018**

VISION

To be a center of excellence for technological education, training & Research and to produce world class Engineers who can be placed in top core companies to serve the nation and the society.



MISSION

- **To provide intensive training in the fundamentals as well as the current trends in the field of Electronics and Communication Engineering.**
- **To continuously update the various facilities in the department and facilitate R&D and Consulting activities.**
- **To provide placement assistance to the students.**
- **To disseminate the knowledge by organizing seminars, Faculty Development Programs and Workshops.**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

- **PEO I. Excel in professional career to provide engineering solution by demonstrating technical competence in electronics and communication engineering.**
- **PEO II. Identify, analyze and formulate problems to offer appropriate design solutions that are technically superior, economically feasible, environmentally compatible and socially acceptable.**
- **PEO III. Achieve progress in professional and research career through communication skills, team work and knowledge up-gradation through continuous education.**

PROGRAMME OBJECTIVES (POs)

- **PO a: Apply the knowledge of the physical sciences, mathematics, computing, Electronics and Communication Engineering fundamentals for modeling and solving complex engineering problems.**
- **PO b: Design and Conduct scientific and engineering experiments, as well as to analyze, evaluate and Interpret generated data pertaining to engineering activities.**
- **PO c: Design and evaluate complex systems for specific purpose in Electronics and Communication Engineering, with due considerations for economic, environmental, social, political, ethical, health and safety considerations**
- **PO d: Identify complex Electronics and Communication Engineering problems, formulate, analyze, design and provide solution for them.**
- **PO e: Apply appropriate techniques, skills, and modern tools for the design and analysis of engineering systems.**
- **PO f: Attain broad education to provide engineering solution by taking environment and sustainability into consideration**
- **PO g: Understand the contemporary technical, Professional issues and provide engineering solution for societal problems**
- **PO h: Develop consciousness of professional, ethical, legal, security, social issues and responsibilities**
- **PO i: Function effectively as individuals and in teams which may involve people from diverse background to accomplish a common goal**
- **PO j: Communicate effectively both in written and oral form to address activities with engineering community and society**
- **PO k: Engage in lifelong learning through higher studies/additional qualifications to adapt technical changes**
- **PO l: Apply engineering and management fundamentals to manage the projects in time with due consideration for finance**

SRI KRISHNA COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF ECE
CURRICULUM & SYLLABI - FOR REGULATION 2017

CURRICULUM AND SYLLABI-2017 (APPLICABLE FOR STUDENTS ADMITTED IN 2017-2018)

CURRICULUM AND SYLLABI

SEMESTER I							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1	17EN001	Technical Communication Skills I	3/0/2	5	4	40/60	HS
2	17MA101	Linear Algebra and Differential Calculus	3/2/0	5	4	60/40	BS
3	17PH102	Engineering Physics	3/0/2	5	4	40/60	BS
4	17EC201	Electric Circuits	4/0/0	4	4	60/40	ES
5	17CS211	Problem Solving Using C Programming	3/0/2	5	4	40/60	ES
6	17EC203	Electric Circuits Analysis Laboratory	0/0/3	3	2	40/60	ES
7	17ME204	Engineering Practices Laboratory	0/0/3	3	2	40/60	ES
Total				30	24	700	

SEMESTER II							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1.	17MA104	Integral Calculus and Laplace Transform	3/2/0	5	4	60/40	BS
2.	17CH103	Engineering Chemistry	3/0/2	5	4	40/60	BS
3.	17CS212	LINUX and Programming in C++	3/0/2	5	4	40/60	ES
4.	17EC301	Measurement and Instrumentation	3/0/0	3	3	60/40	PC
5.	17EC302	Electronic Devices	3/0/0	3	3	60/40	PC
6.	17EC303	Electron Devices Laboratory	0/0/3	3	2	40/60	PC
7.	17ME205	Engineering Graphics laboratory	0/0/3	3	2	40/60	ES
Total				27	22	700	

SEMESTER III							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
	17MA106	Discrete Transforms and Fourier Analysis	3/2/0	5	4	60/40	BS
2.	17CS213	Data Structures & Algorithms	3/0/2	5	4	40/60	ES
3.	17EC304	Electronic Circuits	4/0/0	4	4	60/40	PC
4.	17EC305	Digital Electronics	4/0/0	4	4	60/40	PC
5.	17EC306	Electromagnetics	4/0/0	4	4	60/40	PC
6.	17EC307	Digital Electronics Laboratory	0/0/3	3	2	40/60	PC
7.	17EC308	Electronic Circuits Laboratory	0/0/3	3	2	40/60	PC
8.	17EC701	Mandatory Course-I	-	3	1	0/100	MC
Total				31	25	800	

SEMESTER IV							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1.	17MA111	Probability and Random Process	3/2/0	5	4	60/40	BS
2.	17EC309	Analog Integrated Circuits	3/0/0	3	3	60/40	PC
3.	17EC310	Analog and Pulse Communication	3/0/0	3	3	60/40	PC
4.	17EC311	Signals and Systems	3/0/2	5	4	40/60	PC
5.	17EC312	Transmission Lines and Waveguides	3/0/0	3	3	60/40	PC
6.	17EC313	Analog Integrated Circuits Laboratory	0/0/3	3	2	40/60	PC
7.	17EC314	Analog and Pulse Communication Laboratory	0/0/3	3	2	40/60	PC
8.	17EC601	Mini Project-I	-	-	2	40/60	PW
9.	17EC702	Mandatory Course-II	-	3	1	0/100	MC
				28	24	900	

SEMESTER V							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1.	17EC315	Microcontrollers & Interfacing	3/0/0	3	3	60/40	PC
2.	17EC316	Digital Signal Processing	3/0/2	5	4	40/60	PC
3.	17EC317	Digital Communication	3/0/0	3	3	60/40	PC
4.	17EC318	Computer Networks & Interfacing	3/0/0	3	3	60/40	PC
5.	17EC208	Electrical Machines & Control Systems	3/0/0	3	3	60/40	ES
6.	17EC4XX	Common Elective	3/0/0	3	3	60/40	PE
7.	17EC319	Microcontrollers Laboratory	0/0/3	3	2	40/60	PC
8.	17EC320	Digital Communication and Networks Laboratory	0/0/3	3	2	40/60	PC
9.	17EC703	Mandatory Course-III	-	3	1	0/100	MC
Total				29	24	900	

SEMESTER VI							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1.	17EC321	Embedded Systems	3/0/0	3	3	60/40	PC
2.	17EC322	VLSI Circuits	3/0/0	3	3	60/40	PC
3.	17EC323	Antennas & Wave Propagation	3/0/0	3	3	60/40	PC
4.	17XX5XX	Open Elective-I	3/0/0	3	3	60/40	OE
5.	17EC4XX	Program Elective-I	3/0/0	3	3	60/40	PE
6.	17EC4XX	Program Elective-II	3/0/0	3	3	60/40	PE
7.	17EC324	VLSI Circuits Laboratory	0/0/3	3	2	40/60	PC
8.	17EC325	Embedded Systems Laboratory	0/0/3	3	2	40/60	PC
9.	17EN003	Business Communication Skills Laboratory	0/0/3	3	2	40/60	HS
10.	17EC602	Mini Project-II	-	-	2	40/60	PW
11.	17EC704	Mandatory Course-IV	-	3	1	0/100	MC
Total				30	27	1100	

SEMESTER VII							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1.	17MG003	Principles of Management	2/0/0	2	2	60/40	HS
2.	17EC326	Microwave and Optical Communication	4/0/0	4	4	60/40	PC
3.	17EC4XX	Program Elective-III	3/0/0	3	3	60/40	PE
4.	17EC4XX	Program Elective-IV	3/0/0	3	3	60/40	PE
5.	17EC4XX	Program Elective-V	3/0/0	3	3	60/40	PE
6.	17EC327	Wireless Communication & Networks	3/0/0	3	3	60/40	PC
7.	17EC328	Microwave and Optical Communication Laboratory	0/0/3	3	2	40/60	PC
Total				21	20	700	

SEMESTER VIII							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credits	Ext/Int	Category
1.	17EC603	Project Work	0/0/24	24	12	40/60	PW
Total				24	12	100	

HUMANITIES SCIENCES (8 credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1	17EN001	Technical Communication Skills I	3/0/2	5	4	HS
2	17EN003	Business Communication skills Laboratory	0/0/3	3	2	HS
3	17MG003	Principles of Management	2/0/0	2	2	HS

BASIC SCIENCES (24 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	17MA101	Linear Algebra and Differential Calculus	3/2/0	5	4	BS
2.	17PH102	Engineering Physics	3/0/2	5	4	BS
3.	17MA104	Integral Calculus and Laplace Transform	3/2/0	5	4	BS
4.	17CH103	Engineering Chemistry	3/0/2	5	4	BS
5.	17MA106	Discrete Transforms and Fourier Analysis	3/2/0	5	4	BS
6.	17MA111	Probability and Random Process	3/2/0	5	4	BS

ENGINEERING SCIENCES (25 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	17CS201	Problem Solving Techniques and C Programming	3/0/2	5	4	ES
2.	17ME204	Engineering Practices Laboratory	0/0/3	3	2	ES
3.	17CS212	LINUX and Programming in C++	3/0/2	5	4	ES
4.	17ME205	Engineering Graphics laboratory	0/0/3	3	2	ES
5.	17CS213	Data Structures & Algorithms	3/0/2	5	4	ES
6.	17EC201	Electric Circuits	4/0/0	4	4	ES
7	17EC208	Electrical Machines & Control Systems	3/0/0	3	3	ES
8	17EC203	Electric Circuits Analysis Laboratory	0/0/3	3	2	ES

PROGRAM CORE (80 credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	17EC301	Measurements & Instrumentation	3/0/0	3	3	PC
2.	17EC302	Electronic Devices	3/0/0	3	3	PC
3.	17EC303	Electron Devices Laboratory	0/0/3	3	2	PC
4.	17EC304	Electronic Circuits	4/0/0	4	4	PC
5.	17EC305	Digital Electronics	4/0/0	4	4	PC
6.	17EC306	Electromagnetics	4/0/0	4	4	PC
7.	17EC307	Digital Electronics Laboratory	0/0/3	3	2	PC
8.	17EC308	Electronic Circuits Laboratory	0/0/3	3	2	PC
9.	17EC309	Analog Integrated Circuits	3/0/0	3	3	PC
10.	17EC310	Analog and Pulse Communication	3/0/0	3	3	PC
11.	17EC311	Signals and Systems	3/0/2	5	4	PC
12.	17EC312	Transmission Lines and Waveguides	3/0/0	3	3	PC
13.	17EC313	Analog Integrated Circuits Laboratory	0/0/3	3	2	PC
14.	17EC314	Analog and Pulse Communication Laboratory	0/0/3	3	2	PC
15.	17EC315	Microcontrollers & Interfacing	3/0/0	3	3	PC
16.	17EC316	Digital Signal Processing	3/0/2	5	4	PC
17.	17EC317	Digital Communication	3/0/0	3	3	PC

18.	17EC318	Computer Networks & Interfacing	3/0/0	3	3	PC
19.	17EC319	Microcontrollers Laboratory	0/0/3	3	2	PC
20.	17EC320	Digital Communication & Networks Laboratory	0/0/3	3	2	PC
21.	17EC321	Embedded Systems	3/0/0	3	3	PC
22.	17EC322	VLSI Circuits	3/0/0	3	3	PC
23.	17EC323	Antennas & Wave Propagation	3/0/0	3	3	PC
24.	17EC324	VLSI Circuits Laboratory	3/0/0	3	2	PC
25.	17EC325	Embedded Systems Laboratory	0/0/3	3	2	PC
26.	17EC326	Microwave and Optical Communication	3/0/0	3	3	PC
27.	17EC327	Wireless Communication & Networks	4/0/0	4	4	PC
28.	17EC328	Microwave and Optical Communication Laboratory	0/0/3	3	2	PC

PROGRAM ELECTIVE COURSES (18 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
PROGRAM ELECTIVES						
COMMON ELECTIVES						
1	17EC401	Digital Image Processing	3/0/0	3	3	PE
2	17EC402	Internet of Everything	3/0/0	3	3	PE
3	17EC403	Television and Video Engineering	3/0/0	3	3	PE
4	17EC404	Nano Electronics	3/0/0	3	3	PE
5	17EC405	Robotics	3/0/0	3	3	PE
6	17EC406	Information Theory and Coding Techniques	3/0/0	3	3	PE
7	17EC407	Soft Computing	3/0/0	3	3	PE
Elective Stream I-VLSI Design						
1.	17EC408	Hardware Description Languages	3/0/0	3	3	PE
2.	17EC409	ASIC and FPGA Design	3/0/0	3	3	PE
3.	17EC410	Testing and Verification of VLSI circuits	3/0/0	3	3	PE
4.	17EC411	Digital Low Power VLSI Design	3/0/0	3	3	PE
5.	17EC412	Analog CMOS Circuit Design	3/0/0	3	3	PE
6.	17EC413	CAD for VLSI Circuits	3/0/0	3	3	PE
7.	17EC414	SOC Design	3/0/0	3	3	PE
Elective Stream II - Embedded Systems						
1.	17EC415	Computer Architecture	3/0/0	3	3	PE
2.	17EC416	ARM Processor Architecture & Programming	3/0/0	3	3	PE
3.	17EC417	Sensors for Industrial Applications	3/0/0	3	3	PE
4.	17EC418	Automotive Electronics	3/0/0	3	3	PE
5.	17EC419	Real-Time Operating Systems	3/0/0	3	3	PE
6.	17EC420	Advanced Microprocessor and Microcontroller	3/0/0	3	3	PE
7.	17EC421	Embedded Linux	3/0/0	3	3	PE
Elective Stream III - Communication & Networking						
1.	17EC422	Next Generation Networks	3/0/0	3	3	PE
2.	17EC423	Wireless Sensor Networks	3/0/0	3	3	PE
3.	17EC424	Body Area Networks	3/0/0	3	3	PE
4.	17EC425	Smart Antenna	3/0/0	3	3	PE
5.	17EC426	RF System Design and MEMS	3/0/0	3	3	PE
6.	17EC427	High Speed Networks	3/0/0	3	3	PE
7.	17EC428	Cognitive Radio Communication	3/0/0	3	3	PE
Open Elective Courses offered by ECE						
1.	17EC501	Introduction to VLSI & Embedded Systems	3/0/0	3	3	OE
2.	17EC502	Microcontrollers for Industrial applications	3/0/0	3	3	OE
3.	17EC503	Computer Communication and Networks	3/0/0	3	3	OE

MANDATORY COURSES (4 Credits)

S.No	Course Code	Course Title	Category
1.	17EC701	C Programming	MC
2.	17EC702	Embedded C	MC
3.	17EC703	Java	MC
4.	17EC704	PHP	MC
5.	17EC705	Foreign Language/Spoken Hindi	MC
6.	17EC706	Life Skills/Professional Ethics/Industrial Psychology	MC
7.	17EC707	Environmental Awareness	MC
8.	17EC708	Domain Specific certification/MOOC certification	MC

ONE CREDIT COURSES

S. No	Course Code	Course Title	Credits
1.	17EC901	Simulation Program with Integrated Circuit Emphasis	1
2.	17EC902	PCB design	1
3.	17EC903	PLC and SCADA	1
4.	17EC904	CCNA/ CCSP Networking	1
5.	17EC905	4G Core Network Operations, Administration & Maintenance	1
6.	17EC906	IPv6 Fundamental & Deployment	1
7.	17EC907	Advance Mobile communication Technologies	1
8.	17EC908	Timing issues in Digital Circuits	1
9.	17EC909	Embedded RTOS design	1
10.	17EC910	Embedded LINUX/ C	1
11.	17EC911	System Design	1
12.	17EC912	Measurement System Analysis	1

SCHEME OF CREDIT DISTRIBUTION – SUMMARY

S. No	Stream	Credits/Semester								Credits	%	AICTE %
		I	II	III	IV	V	VI	VII	VIII			
1.	Humanities (HS)	4					2	2		8	4.4	5-10
2.	Basic Sciences(BS)	8	8	4	4					24	13.3	15-20
3.	Engineering Sciences(ES)	12	6	4		3				25	13.88	15-20
4.	Program Core(PC)		8	16	17	17	16	6		80	44.44	30-40
5.	Program Electives(PE)					3	6	9		18	10	10-15
6.	Open Electives(OE)							3		3	1.66	5-10
7.	Project Work(PW)				2		2		12	16	8.8	10-15
8.	Mandatory Course			1	1	1	1			4	2.2	-
9.	Employability Skills									2	1.1	-
Total		24	22	25	24	24	27	21	12	180	100	