

JAYPEE UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Curriculum for B. Tech. Electronics Engineering (VLSI Design and Technology)

FIRST SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.	MA101	MATH	Engineering Mathematics	3	1	0	4	4
2.	PH101	PHY	Engineering Physics-1	3	1	0	4	4
3.	HS101	HSS	English	2	0	2	3	3
4.	CS101	CSE	Computer Programming	3	1	0	4	4
5.	PH201	PHY	Physics Lab-1	0	0	2	2	1
6.	CS201	CSE	Computer Programming Lab	0	0	4	4	2
7.	ME201	MEC	Workshop Practices	0	0	3	3	1.5
8.	HS001	HSS	Value Added Course (Human Values and Professional Ethics)	2	0	0	2	AP
TOTAL							26	19.5

SECOND SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.	HS104	HSS	Life Skills and Effective Communication	1	0	2	3	2
2.	MA105	MATH	Discrete Mathematics	3	1	0	4	4
3.	PH102	PHY	Physics-1	3	1	0	4	4
4.	EC101	ECE	Electrical Science	3	1	0	4	4
5.	CS102	CSE	Object Oriented Programming	3	1	0	4	4
6.	PH202	PHY	Physics Lab-2	0	0	2	2	1
7.	EC203	ECE	Electrical Science Lab	0	0	2	2	1
8.	CS202	CSE	Object Oriented Programming Lab	0	0	2	2	1
9.	ME203	MEC	Engineering Drawing & Design Lab	0	0	3	3	1.5
TOTAL							28	22.5

THIRD SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.	HS103	HSS	Techniques for Decision Making	2	1	0	3	3
2.	CS113	CSE	Data Structures and Algorithms	3	0	0	3	3
3.	EC107	ECE	Signals & Systems	3	1	0	4	4
4.	EC108	ECE	Analogue Electronics	3	1	0	4	4
5.	EC109	ECE	Measurement & Instrumentation	3	0	0	3	3
6.	CS213	CSE	Data Structures and Algorithms Lab	0	0	2	2	1
7.	EC207	ECE	Signals & Systems Lab	0	0	2	2	1
8.	EC208	ECE	Analogue Electronics Lab	0	0	2	2	1
9.	EC209	ECE	Measurement & Instrumentation Lab	0	0	2	2	1
10.	GE001	CHE	Value Added Course (Environmental Science)	2	0	0	2	AP
11.	HS007	HSS	Value Added Course (Career Management and Development)	2	0	0	2	AP
12.	CS001	CSE	Value Added Course (Programming in Python)	0	0	2	2	AP
13.	EC003	ECE	Internship/Summer Training (4 weeks - 160-180 hours)	-	-	-	-	AP
TOTAL							31	21

FOURTH SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.	HSXXX	HSS	HSS Elective – 1	3	0	0	3	3
2.	EC111	ECE	Digital Circuit Design	3	0	0	3	3
3.	EC112	ECE	Analog and Digital Communication	3	1	0	4	4
4.	ECXXX	ECE	Introduction to Micro-fabrication	3	0	0	3	3
5.	EC114	ECE	Control Systems	3	1	0	4	4
6.	EC211	ECE	Digital Circuit Design Lab	0	0	2	2	1
7.	EC212	ECE	Analog and Digital Communication Lab	0	0	2	2	1
8.	ECXXX	ECE	Introduction to Micro-fabrication Lab	0	0	2	2	1
9.	EC213	ECE	Hardware Lab	0	0	2	2	1
TOTAL							25	21

FIFTH SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.	HSXXX	HSS	HSS Elective-2	2	1	0	3	3
2.	MA106	MATH	Probability and Random Processes	3	1	0	4	4
3.	ECXXX	ECE	Semiconductor Devices and Materials	3	0	0	3	3
4.	EC302	ECE	Science Elective (Power Science)	3	0	0	3	3
5.	EC115	ECE	Microprocessor and Interfacing	3	0	0	3	3
6.	EC116	ECE	Digital Signal Processing	3	0	0	3	3
7.	EC215	ECE	Microprocessor and Interfacing Lab	0	0	2	2	1
8.	EC216	ECE	Digital Signal Processing Lab	0	0	2	2	1
9.	EC214	ECE	Minor Project – 1	0	0	4	4	2
10.	EC004	ECE	Internship/Summer Training (4 weeks - 160-180 hours)	-	-	-	-	AP
TOTAL							27	23

SIXTH SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.	HSXXX	HSS	HSS Elective-3	3	0	0	3	3
2.	EC117	ECE	Telecommunication Networks	3	0	0	3	3
3.	EC118	ECE	VLSI Design	3	0	0	3	3
4.	ECXXX	ECE	Discipline Elective – 1	3	0	0	3	3
5.	ECXXX	ECE	Discipline Elective – 2	3	0	0	3	3
6.	EC217	ECE	Telecommunication Networks Lab	0	0	2	2	1
7.	EC218	ECE	VLSI Design Lab	0	0	2	2	1
8.	EC219	ECE	Communication Lab-I	0	0	2	2	1
9.	EC220	ECE	Minor Project-2	0	0	4	4	2
10.	HS004	HSS	Value Added Course (Indian Constitution and Traditional Knowledge)	2	0	0	2	AP
TOTAL							27	20

1. All students will undergo Value Added Course; however it will not count for CGPA calculations and will not be reflected in transcript of those students who fail to qualify.
2. Students will undergo 4 & 6 weeks Industrial Training during Summer Vacation after 4th & 6th Semester respectively.

SEVENTH SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.		All	Open Elective – 1	3	0	0	3	3
2.	ECXXX	ECE	Discipline Elective – 3	3	0	0	3	3
3.	ECXXX	ECE	Discipline Elective– 4	3	0	0	3	3
4.	ECXXX	ECE	Discipline Elective – 5	3	0	0	3	3
5.	EC223	ECE	Major Project Part-I	0	0	8	8	4
6.	EC005	ECE	Internship/Summer Training (6 weeks - 240-270 hours)	-	-	-	-	AP
7.	HS011	HSS	Value Added Course (Legal and Ethical Issues in Business)	2	0	0	2	AP
8.	HS009	HSS	Value Added Course (Introduction to Financial Markets)	2	0	0	2	AP
9.	HS005	HSS	Value Added Course (Academic Research and Paper Writing)	2	0	0	2	AP
TOTAL							22	16

EIGHTH SEMESTER

S. No.	Course Code	Dept.	Title of Course	Contact Hours				Credits
				L	T	P	Total	
1.		Engg.	Open Elective – 2	3	0	0	3	3
2.	ECXXX	ECE	Discipline Elective– 6	3	0	0	3	3
3.	ECXXX	ECE	Discipline Elective – 7	3	0	0	3	3
4.	EC224	ECE	Major Project Part-II	0	0	16	16	8
TOTAL							25	17

Total Credits for B. Tech. –160.

(Value Added Courses (Audit courses) will not count for CGPA calculations.)

Discipline Elective

S. No.	Course Code	Course Title
1.	EC307	Digital Hardware Design
2.	EC348	Analog IC Design
3.	EC349	Essential of VLSI Testing
4.	EC306	Embedded Systems
5.	EC351	Modeling and Simulation of Semiconductor Devices
6.	EC352	Mixed signal design
7.	EC353	Bio Medical Electronics
8.	EC354	RF Electronics
9.	EC355	Low Power VLSI
10.	EC356	Nano Electronics
11.	EC357	CAD for VLSI
12.	EC358	Introduction to MEMS
13.	EC316	Neural Network
14.	EC322	Wireless Sensor Networks
15.	EC311	Internet Based Automation
16.	EC327	FPGA based System Design
17.	EC319	Image and Video Processing

Science Elective

S. No.	Course Code	Course Title
1.	EC302	Power Science
2.	EC341	Science of Semiconductors
3.	PH302	Nano Science
4.	PH303	Material Science and Applications
5.	CH303	Biochemistry

Value Added Courses

S.No.	Course Code	Course Title
1.	HS001	Value Added Course-1 (Human Values and Professional Ethics)
2.	HS007	Value Added Course-2 (Career Management and Development)
3.	CS001	Value Added Course-3 (Programming in Python)
4.	HS004	Value Added Course-4 (Indian Constitution and Traditional Knowledge)
5.	HS011	Value Added Course (Legal and Ethical Issues in Business)
6.	HS009	Value Added Course (Introduction to Financial Markets)
7.	HS005	Value Added Course (Academic Research and Paper Writing)