

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

(Department of Electronics and Communication Engineering)

COURSE STRUCTURE

5 YEARS DUAL DEGREE B.TECH. (ECE) + M. TECH.

(Specialization in VLSI Design)



GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA

2015-2020

5 Year Dual Degree B. Tech. (Electronics & Communication Engineering) + M.Tech. (VLSI Design)

2015-2020

SEMESTER I

Sr. No.	Courses Code	Courses	L-T-P		Credits
1	CY101	Engineering Chemistry	3-1-0	FC-C1	4
2	MA101	Engineering Mathematics – I	3-1-0	FC-C2	4
3	ES 101	Environment Studies	2-1-0	AECC1	3
4	CS101	Computer Programming – I	2-0-0	FC-C3	2
5	EC101	Basic Electronics	2-1-0	FC-C4	3
6	EN101	English Proficiency	2-0-0	AECC2	2
7	BS101	Human Values & Buddhist Ethics	2-0-0	AECC3	2
8	CY103	Engineering Chemistry Lab	0-0-2	FC-C5	1
9	CS 181	Computer Programming Lab1	0-0-2	FC-C6	1
10	CE103	Engineering Graphics	0-0-3	FC-C7	2
11	EC181	Basic Electronics Lab	0-0-2	FC-C8	1
12	GP	General Proficiency	-----	Non Credit	
Total Credits					25
Total Contact Hours			16-4-9		29

Ability Enhancement Compulsory Course (AECC):

1. EN101 English Proficiency
2. ES 101 Environment Studies
3. BS101 Human Values & Buddhist Ethics

SEMESTER II

Sr. No.	Courses Code	Courses	L-T-P		Credits
1	PH102	Engineering Physics	3-1-0	FC- C9	4
2	MA102	Engineering Mathematics – II	3-1-0	FC-C10	4
3	ME 101	Engineering Mechanics	2-1-0	FC-C11	3
4	CS102	Computer Programming – II	2-0-0	FC-C12	2
5	EE102	Electrical Technology	2-1-0	FC-C13	3
6	HU102	Professional Communication	2-0-0	AECC4	2
7		Open Elective I	2-0-0	OE1	2
9	PH104	Engineering Physics Lab	0-0-2	FC-C14	1
10	CS182	Computer Programming Lab - II	0-0-2	FC-C15	1
11	EE104	Electrical Technology Lab	0-0-2	FC-C16	1
12	ME102	Engineering Workshop	0-0-3	FC-C17	2
13	GP	General Proficiency	-----	Non Credit	
Total Credits					25
Total Contact Hours			16-4-9		29

Ability Enhancement Compulsory Course (AECC):

1. HU 102 Professional Communication

Open Elective I (OE) Courses offered from other school/department.

SEMESTER – III

Sr. No.	Course Code	Courses	L-T-P		Credits
1	MA201	Engineering Mathematics III	3-1-0	FC-C18	4
2	EC201	Digital Electronics	3-0-0	FC-C19	3
3	EC203	Network Analysis and Synthesis	3-0-0	C20	3
4	EC205	Signal and Systems	2-1-0	C21	3
5	CS205	Data Structures and Algorithms	2-1-0	SEC1	3
6	EC207	Electronic Devices and Circuits	3-0-0	C22	3
7	EC281	Digital Electronics Lab	0-0-3	FC-C23	2
8	EC283	Electronic Circuits Lab	0-0-3	C24	2
9	CS283	Data Structures and Algorithms Lab	0-0-3	C25	2
10	GP	General Proficiency		Non Credit	
		Total Credits			25
		Total Contact Hours	16-3-9		28

Skill Enhancement Course (SEC):

1. CS 205 Data Structures and Algorithms

SEMESTER – IV

Sr. No.	Course Code	Courses	L-T-P		Credits
1	MA202	Numerical and Statistical Analysis	3-1-0	C26	4
2	EC202	Analog Communication	3-1-0	C27	4
3	EC204	Linear IC Applications	3-0-0	C28	3
4	EE202	Measurements and Instrumentation	2-0-0	FC-C29	2
5	EC206	Digital Signal Processing	3-0-0	C30	3
6	EC208	Electromagnetic Theory	3-0-0	C31	3
7	EE216	Measurements and Instrumentation Lab	0-0-2	FC-C32	1
8	EC282	Analog Communication Lab	0-0-3	C33	2
9	EC284	Digital Signal Processing Lab	0-0-3	C34	2
10	GP	General Proficiency		Non Credit	
		Total Credits			24
		Total Contact Hours	17-2-8		27

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SEMESTER – V

Sr. No.	Course Code	Courses	L-T-P	Credits	
1	EC301	Digital Logic Design	3-0-0	C35	3
2	EC303	Digital Communication Systems	3-0-0	C36	3
3	EC305	Antenna and Wave Propagation	2-1-0	C37	3
4	EC307	Introduction to Control Theory	2-1-0	C38	3
5	CS309	Computer Organization and Architecture	3-0-0	C39	3
6		Open Elective II	2-0-0	OE2	2
7	EC381	Logic Design Lab	0-0-3	C40	2
8	EC383	Digital Communication Lab	0-0-3	C41	2
9	EC385	Antenna and Wave propagation Lab	0-0-3	C42	2
10	GP	General Proficiency		Non Credit	
		Total Credits			23
		Total Contact Hours	15-2-9		26

Open Elective II (OE) Courses offered from other school/department.

SEMESTER – VI

Sr. No.	Course Code	Courses	L-T-P	Credits	
1	EC302	Microwave Engineering	3-0-0	C43	3
2	EC304	Microprocessors & Interfacing	2-1-0	C44	3
3	EC306	Microelectronics Engineering	3-0-0	C45	3
4	EC308	Information Theory & Coding	2-1-0	C46	3
5	CS310	Data Networks	3-0-0	C47	3
6	CS312	Management Information System	2-0-0	SEC2	2
7	EC382	Microwave Engineering Lab	0-0-3	C48	2
8	EC384	Microprocessor and Interfacing Lab	0-0-3	C49	2
9	CS382	Computer Networks Lab	0-0-3	C50	2
10	GP	General Proficiency		Non Credit	
		Total Credits			23
		Total Contact Hours	15-2-9		26

Skill Enhancement Course (SEC):

1. CS312 Management Information System

SEMESTER – VII

Sr. No.	Courses Code	Courses	L-T-P		Credits
1.		Generic Elective	3-1-0	GE 1	4
2	EC401	Optical Communication	3-0-0	C51	3
3	EC403	Semiconductor Device Modeling and Technology	2-1-0	C52	3
4		Elective 1	3-0-0	DSE1	3
5		Elective 2	3-0-0	DSE2	3
6	EC481	Optical Communication Lab	0-0-3	C53	2
7	EC491	Seminar	0-0-2	DP1	1
8	EC493	Minor Project	0-0-8	DP2	4
9	GP	General Proficiency	-----	Non Credit	
Total Credits					23
Total Contact Hours			14-2-13		29

Elective: 1 & 2

Sr.No	Course Code	Courses
1	EC441	Design with Microcontrollers
2	EC443	Telecommunication Switching and Networks
3	EC445	Satellite Communication
4	EC447	Digital Image Processing
5	EC449	Communication Networks and Transmission Lines
6	EC465	Principles of VLSI Design
7	EC467	RADAR and TV Engineering
8	CS441	Software Project Management
9	CS443	Object Oriented Software Engineering
10	EC405	Wireless Mobile Communication

Generic Elective (GEI)

1. MA406 Operation Research Techniques
2. MA507 Optimization Techniques
3. MA417 Number Theory

SEMESTER VIII

Sr. No	Subject Code	Courses	L-T-P	Credits	
1		Generic Elective	3-1-0	GE2	4
2	EC536	IC- Technology	3-0-0	C54	3
3	EC538	Analog IC Design	3-0-0	C55	3
4	EC578	CMOS VLSI Design	3-0-0	C56	3
5		Elective - 3	3-0-0	DSE2	3
6	EC580	Design Lab I	0-0-3	C57	2
7	EC592	Major Project	0-0-10	DP3	5
8	GP	General Proficiency	---	Non Credit	
		Total Credits			23
		Total Contact Hours	15-1-13		29

Elective - 3

S. No	Subject Code	Courses
1	EC574	Integrated Circuit Physical Design
2	EC568	Design of Semiconductor Memories
3	EC576	CMOS RF Circuit Design

Generic Elective (GE1)

1. MA 402 Modeling and Simulation
2. MA416 Probability and Stochastic Process

Summer Semester (After 8 th Semester)					
Sr. No.	Courses Code	Courses	L-T-P	Credits	
1	EC490	Summer Project / Industrial Training		DP4	5
		Total Credits			05
		Total Contact Hours			4-6 week

SEMESTER – IX

Sr. No	Subject Code	Courses	L-T-P	Credits	
1	EC633	Low Power VLSI Design	3-0-0	C58	3
2	EC675	Mixed Signal VLSI Design	3-0-0	C59	3
3		Elective - 4	3-0-0	DSE3	3
4		Elective - 5	3-0-0	DSE4	3
5	EC683	Design Lab II	0-0-3	C60	2
6	EC691	Dissertation Phase - I	0-0-14	DP2	7
7	GP	General Proficiency	---	Non Credit	
		Total Credits		21	
		Total Contact Hours	12-0-17	29	

Elective - 4 & 5

Sr.No	Subject Code	Courses
1	EC665	VLSI ASIC Design
2	EC667	RF MEMS Design and Technology
3	EC673	VLSI-Reliability Engineering
4	EC677	DSP Integrated Circuits
5	EC679	Test and Verification of VLSI Circuits
6	EC669	Algorithm for VLSI Design Automation

SEMESTER – X

Sr. No	Subject Code	Courses	L-T-P	Credits	
1	EC690	Dissertation Phase-II	---	DP3	23
2	GP	General Proficiency	---	Non Credit	0
		Total	---		23

Grand Total Credits = 240

Open Elective I (OE) Courses offered from other school

1. SS102 History of Science & Technology
2. BSC 201 Introduction to Buddhist Meditation: Theories & Practises
3. BSCU305 Buddhist Art & Architect

Open Elective II (OE) Courses offered from other school

1. CS311 Ecommerce
2. CE311 Engineering Economics