

REGULATIONS 2024
DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING M.E., VLSI DESIGN
CURRICULUM

S.No.	Category	Course Code	Course Title	Contact Hours per Week			Credits
				L	T	P	
1	FC	MEC1001	Graph Theory and Optimization Techniques	3	1	0	4
2	PC	MEC1002	Analog IC Design	3	0	0	3
3	PC	MEC1003	Digital CMOS VLSI Design	3	0	0	3
4	PC	MEC1004	Advanced Digital System Design	3	0	2	4
5	PC	MEC1005	Semiconductor Devices and Modeling	3	0	0	3
6	PC	MEC1006	FPGA Laboratory	0	0	4	2
7	PC	MEC1007	Analog IC Design Laboratory	0	0	4	2
8	PC	MEC1008	Design for Verification using UVM	3	0	0	3
9	PC	MEC1009	Low Power VLSI Design	3	0	0	3
10	PC	MEC1010	RFIC Design	3	0	0	3
11	PC	MEC1011	VLSI Testing	3	0	0	3
12	PC	MEC1012	Verification using UVM Laboratory	0	0	4	2
13	PC	MEC1013	VLSI Signal Processing	3	0	0	3
14	PE-I	MEC1014	ASIC Design	3	0	0	3
15	PE-I	MEC1015	Embedded System Design	3	0	0	3
16	PE-I	MEC1016	Electromagnetic Interference and Compatibility	3	0	0	3
17	PE-I	MEC1017	Data Converters	3	0	0	3
18	PE-I	MEC1018	Hardware Software Co-Design for FPGA	3	0	0	3
19	PE-I	MEC1019	Pattern Recognition	3	0	0	3
20	PE-II	MEC1020	DSP Structures for VLSI	3	0	0	3
21	PE-II	MEC1021	Power Management and Clock Distribution Circuits	3	0	0	3
22	PE-II	MEC1022	Reconfigurable Architectures	3	0	0	3
23	PE-II	MEC1023	Advanced Wireless Sensor Networks	3	0	0	3
24	PE-II	MEC1024	Signal Integrity for High Speed Design	3	0	0	3
25	PE-II	MEC1025	System On Chip	3	0	0	3
26	PE-III	MEC1026	MEMS and NEMS	3	0	0	3
27	PE-III	MEC1027	Network on Chip	3	0	0	3
28	PE-III	MEC1028	Nano Technology	3	0	0	3
29	PE-III	MEC1029	Evolvable Hardware	3	0	0	3

30	PE-III	MEC1030	Soft Computing and Optimization Technique	3	0	0	3
31	PE-III	MEC1031	CAD for VLSI Design	3	0	0	3
32	PE-IV	MEC1032	VLSI Architectures for Image Processin	3	0	2	4
33	PE-IV	MEC1033	System Verilog	3	0	2	4
34	PE-IV	MEC1034	Adaptive Signal Processing	3	0	2	4
35	PE-IV	MCS1009	Machine Learning	3	0	2	4
36	PE-IV	MEC1035	Digital Image and Video Processing	3	0	2	4
37	RMC	MGE0001	Research Methodology and IPR	2	0	0	2
38	OE	MGE0002	Integrated Water Resources Management	3	0	0	3
39	OE	MGE0003	Water, Sanitation and Health	3	0	0	3
40	OE	MGE0004	Principles of Sustainable Development	3	0	0	3
41	OE	MGE0005	Environmental Impact Assessment	3	0	0	3
42	OE	MCS1040	Blockchain Technologies	3	0	0	3
43	OE	MCS1039	Deep Learning	3	0	0	3
44	OE	MGE0006	Vibration and Noise Control Strategies	3	0	0	3
45	OE	MGE0007	Energy Conservation and Management in Domestic Sectors	3	0	0	3
46	OE	MGE0008	Additive Manufacturing	3	0	0	3
47	OE	MGE0009	Electric Vehicle Technology	3	0	0	3
48	OE	MGE0010	New Product Development	3	0	0	3
49	OE	MGE0011	Sustainable Management	3	0	0	3
50	OE	MGE0012	Micro and Small Business Management	3	0	0	3
51	OE	MGE0013	Intellectual Property Rights	3	0	0	3
52	OE	MGE0014	Ethical Management	3	0	0	3
53	OE	MGE0015	IoT for Smart Systems	3	0	0	3
54	OE	MGE0016	Machine Learning and Deep Learning	3	0	0	3
55	OE	MGE0017	Renewable Energy Technology	3	0	0	3
56	OE	MGE0018	Smart Grid	3	0	0	3
57	OE	MCS1012	Security Practices	3	0	0	3
58	OE	MCS1014	Cloud Computing Technologies	3	0	0	3
59	OE	MGE0027	Design Thinking	3	0	0	3
60	OE	MGE0028	Principles of Multimedia	3	0	0	3
61	OE	MGE0023	Environmental Sustainability	3	0	0	3
62	OE	MGE0024	Textile Reinforced Composites	3	0	0	3
63	OE	MGE0025	Nanocomposite Materials	3	0	0	3
64	OE	MGE0026	IPR, Biosafety and Entrepreneurship	3	0	0	3
65	EE	MGE0029	Term Paper Writing and Seminar	0	0	2	2
66	EE	MEC1036	Project Work I	0	0	12	6
67	EE	MEC1037	Project Work II	0	0	24	12

S.No.	SEMESTER	CATEGORY						TOTAL CREDITS
		FC	PC	PE	RMC	OE	EEC	
1	I	4	17	0	2	0	0	23
2	II	0	14	6	0	0	1	21
3	III	0	3	7	0	3	6	19
4	IV	0	0	0	0	0	12	12

BATCH: 2024- 2028 Onwards

Category	Credits to be Earned
Foundation Courses (FC)	4
Professional Core (PC)	34
Professional Elective (PE)	13
Research Methodology and IPR (RMC)	2
Open Electives (OE)	3
Employability Courses (EEC)	19
TOTAL	75