



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

COURSE STRUCTURE & SYLLABUS M.Tech ECE

VLSI, VLSI Design, VLSI System Design,
VLSI Micro-Electronic Programme
(Applicable for batches admitted from 2019-2020)



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I Semester								
S.No	Course No	Course Name	P.Os	Category	L	T	P	Credits
1	PC	CMOS Analog IC Design			3	0	0	3
2	PC	CMOS Digital IC design			3	0	0	3
3	PE	1. VLSI Technology 2. Nanomaterials and Nanotechnology 3. MEMS Technology			3	0	0	3
4	PE	1. Device Modeling 2. Nano-electronics 3. Photonics			3	0	0	3
5		Research methodology and IPR			2	0	0	2
6	Lab 1	CMOS Analog IC Design Lab			0	0	4	2
7	Lab 2	CMOS Digital IC Design Lab			0	0	4	2
8	Aud 1	Audit course-1			2	0	0	0
Total								18

II Semester								
S.No	Course No	Course Name	P.Os	Category	L	T	P	Credits
1	PC	Mixed Signal & RF IC Design			3	0	0	3
2	PC	Physical Design Automation			3	0	0	3
3	PE	1. Design For Testability 2. IOT & its Applications 3. VLSI Signal Processing			3	0	0	3
4	PE	1. Network Security & Cryptography 2. Microcontrollers & programmable Digital Signal Processors 3. Low Power VLSI Design			3	0	0	3
5	Lab 1	Mixed Signal IC Design Lab			0	0	4	2
6	Lab 2	Physical Design Automation Lab			0	0	4	2
7	MP	Mini Project			0	0	4	2
8	Aud 2	Audit Course – 2			2	0	0	0
Total								18

*Students be encouraged to go to Industrial Training/Internship for at least 2-3 weeks during semester break.



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III Semester*								
S.No	Course No	Course Name	P.Os	Category	L	T	P	Credits
1	PE	1.Scripting Languages for VLSI 2. Digital System Design & Verification 3.Hardware Software co-design			3	0	0	3
2	OE	1. Business Analytics 2. Industrial Safety 3. Operations Research 4. Cost Management of Engineering Projects 5. Composite Materials 6. Waste to Energy			3	0	0	3
3	Dissertation	Dissertation Phase -I /Industrial Project (to be continued and evaluated next semester)			0	0	20	10 [#]
					Total			16

[#]Evaluated and Displayed in IV Semester Marks list.

*Students going for Industrial Project/Thesis will complete these courses through MOOCs

IV Semester								
S.No	Course No	Course Name	P.Os	Category	L	T	P	Credits
1	Dissertation	Project/ Dissertation Phase-II (continued from III semester)			0	0	32	16
					Total			16

Audit Course 1& 2

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills