

Department of Electrical Engg.

For UG.

Department Elective Courses (DECs)						
S.No	Discipline	Course Name	SME Name	Institute	Co-ordinating Institute	Duration
1	Electrical and Electronics Engineering	Phase-Locked Loops	Prof. Saurabh Saxena	IIT Madras	IIT Madras	12 Weeks
2	Electrical and Electronics Engineering	Probability Foundations for Electrical Engineers	Prof. Krishna Jagannathan	IIT Madras	IIT Madras	12 Weeks
3	Electrical and Electronics Engineering	Electrical Distribution System Analysis	Prof. N P Padhy, Late. Prof. G. B. Kumbhar	IIT Roorkee	IIT Roorkee	12 Weeks
4	Electrical and Electronics Engineering	Linear Systems Theory	Prof. Ramkrishna Pasumarth	IIT Madras	IIT Madras	12 Weeks
5	Electrical and Electronics Engineering	VLSI Design Flow: RTL to GDS	Prof. Sneha Saurabh	IIT Delhi	IIT Madras	12 Weeks
6	Electrical and Electronics Engineering	Introduction to Wireless and Cellular Communications	Prof. David Koilpillai	IIT Madras	IIT Madras	12 Weeks
7	Electrical and Electronics Engineering	Applied Linear Algebra for Signal Processing, Data Analytics and Machine Learning	Prof. Aditya K. Jagannathan	IIT Kanpur	IIT Kanpur	12 Weeks
8	Electrical and Electronics Engineering	Design of Photovoltaic Systems	Prof. L. Umanand	IISc Bangalore	IISc Bangalore	12 Weeks
9	Electrical and Electronics Engineering	Pattern Recognition and Application	Prof. Prabir Kumar Biswas	IIT Kharagpur	IIT Kharagpur	12 Weeks
10	Electrical and Electronics Engineering	Modern Digital Communication Techniques	Prof. Suvra Sekhar Das	IIT Kharagpur	IIT Kharagpur	12 Weeks
11	Electrical and Electronics Engineering, Physics	Modeling and TCAD Simulation of Solar PV Cell	Prof. Mukul Kumar Das	IIT-ISM Dhanbad	IIT Kharagpur	12 Weeks
12	Electrical Engineering / Electronics and Communication Engineering	Power Electronics with Wide Band Gap Devices	Prof. Moumita Das	IIT Mandi	IIT Madras	12 Weeks
13	Electrical Engineering / Electronics and Communication Engineering	Modeling, Analysis and Estimation of Three Phase Unbalanced Power Network	Prof. Biswarup Das	IIT Roorkee	IIT Roorkee	12 Weeks
14	Electrical Engineering / Electronics and Communication Engineering	Advanced Distribution System Analysis and Operation	Prof. N. P. Padhy, Prof. Subho Paul	IIT Roorkee	IIT Roorkee	12 Weeks
15	Electrical Engineering / Electronics and Communication Engineering	Mathematical Methods and Techniques in Signal Processing	Prof. Shayan Srinivasa Garani	IISc Bangalore	IISc Bangalore	12 Weeks
16	Electrical Engineering / Electronics and Communication Engineering	Neural Networks for Signal Processing - I	Prof. Shayan Srinivasa Garani	IISc Bangalore	IISc Bangalore	12 Weeks
17	Electrical Engineering / Electronics and Communication Engineering	Convex Optimization in Control	Prof. Ashish Ranjan Hota	IIT Kharagpur	IIT Kharagpur	12 Weeks
18	Electrical Engineering / Electronics and Communication Engineering	Control and Tuning Methods in Switched Mode Power Converters	Prof. Santanu Kapat	IIT Kharagpur	IIT Kharagpur	12 Weeks
19	Electrical Engineering/Aerospace Engineering	Sliding Mode Control and Applications	Prof. Shyam Kamal	IIT (BHU) Varanasi	IIT Madras	12 Weeks
20	Electrical Engineering / Electronics and Communication Engineering	Microsensors and Nanosensors	Prof. Ravindra Kumar Jha	IIT Guwahati	IIT Guwahati	12 Weeks
21	Computer Science & Engineering, Electrical Engineering, Mathematics	Distributed Optimization and Machine Learning	Prof. Mayank Baranwal	IIT Bombay	IIT Bombay	12 Weeks
22	Computer Science and Engineering, Electrical, Electronics and Communications Engineering, Information Technology	Introduction to Large Language Models (LLMs)	Prof. Tanmoy Chakraborty, Prof. Soumen Chakraborti	IIT Delhi	IIT Delhi	12 Weeks
23	Electrical and Electronics Engineering	Principles and Techniques of Modern Radar Systems	Prof. Amitabha Bhattacharya	IIT Kharagpur	IIT Kharagpur	12 Weeks
24	Electrical Engineering / Electronics and Communication Engineering	Signal Processing for mm Wave Communication for 5G and Beyond	Prof. Amit Kumar Dutta	IIT Kharagpur	IIT Kharagpur	12 Weeks
25	Electronics & Communication Engineering Multidisciplinary Biological Sciences & Bioengineering	Biomedical Ultrasound: Fundamentals of Imaging and Micromachined Transducers	Prof. Himanshu Shekhar, Prof. Karla P. Mercado-Shekhar, Prof. Hardik J. Pandya	IIT Gandhinagar	IISc Bangalore	12 Weeks

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26	Electrical Engineering / Electronics and Communication Engineering	5G Wireless Standard Design	Prof. Rohit Budhiraja	IIT Kanpur	IIT Kanpur	12 Weeks
27	Electrical Engineering / Electronics and Communication Engineering	Cryogenic Electronics for Quantum Computing	Prof. Sudeb Dasgupta	IIT Roorkee	IIT Roorkee	12 Weeks

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