

राष्ट्रीय प्रौद्योगिकी संस्थान मिजोरम
NATIONAL INSTITUTE OF TECHNOLOGY MIZORAM
(An Institution of National Importance under the Ministry of HRD, Govt. of India)
CHALTLANG, AIZAWL, MIZORAM -796012



Course Structure for Dual Degree (B. Tech + M. Tech) in

Department of Electrical Engineering

M. Tech Specialization: Smart Grid Technology

Semester-VII

S. No.	Course Code	Course Title	L	T	P	Credits
1.	EEL 4101	Elements of Smart Grid System	3	0	0	3
2.	EEL 4102	Dynamics of Renewable Energy Resources	3	0	0	3
3.	EEL 4103	Analysis of Power Converters	3	0	0	3
4.	EEL 41XX	Elective -I	3	0	0	3
5.	EEL 41XX	Elective-II	3	0	0	3
6.	EEP 4103	Modeling and simulation laboratory	0	0	3	1.5
7.	EEP 4104	Renewable Energy Control laboratory	0	0	3	1.5
		TOTAL	15	0	6	18

Semester-VIII

S. No.	Course Code	Course Title	L	T	P	Credits
1.	EEL 4201	Smart Grid Protection	3	0	0	3
2.	EEL 4202	Smart Grid Communications and Protocols	3	0	0	3
3.	EEL 42XX	Elective -IV	3	0	0	3
4.	EEL 42XX	Elective - V	3	0	0	3
5.	EEL 42XX	Elective - VI	3	0	0	3
6.	EEP 4203	Smart grid Protection laboratory	0	0	3	1.5
7.	EEV 4204	Seminar - II	0	0	3	1.5
		TOTAL	15	0	6	18

Semester-IX

S. No.	Course Code	Course Title	Credits
1	EET 4301	Project Phase-I	8
		TOTAL	8

Semester-X

S. No.	Course Code	Course Title	Credits
1	EET 4401	Project Phase-II	16
		TOTAL	16

Semester	VII	VIII	IX	X
Credit	18	18	8	16
Total = 60				

LIST OF DEPARTMENTAL ELECTIVES: for SEMESTER- VII

Sl. No	Course Code	Course Title	L-T-P	Credit
1	EEL 4X10	Smart Grid Planning & Operation	3-0-0	3
2	EEL 4X11	Modern Control Systems	3-0-0	3
3	EEL 4X12	Deregulated Smart Grids	3-0-0	3
4	EEL 4X13	Advanced Electric drives	3-0-0	3
5	EEL 4X14	Power system dynamics	3-0-0	3
6	EEL 4X15	Optimization technique	3-0-0	3
7	EEL 4X16	Smart Appliances and Internet of Things	3-0-0	3
8	EEL 4X17	SCADA system and applications	3-0-0	3
9	EEL 4X18	Fundamentals of Communication Technology and Security for Smart Grid	3-0-0	3

LIST OF DEPARTMENTAL ELECTIVES: for SEMESTER- VIII

Sl. No	Course Code	Course Title	L-T-P	Credit
1	EEL 4X20	Energy Storage Systems	3-0-0	3
2	EEL 4X21	Advanced Digital Signal Processing	3-0-0	3
3	EEL 4X22	Data Science Applications in Power Engineering	3-0-0	3
4	EEL 4X23	Machine Learning and Deep Learning	3-0-0	3
5	EEL 4X24	Numerical Optimization	3-0-0	3
6	EEL 4X25	Advanced Power Electronics	3-0-0	3
7	EEL 4X26	Soft computing technique and applications	3-0-0	3
8	EEL 4X27	Grid Integration of Electric Vehicles	3-0-0	3
9	EEL 4X28	Adaptive and Robust Control Systems	3-0-0	3
10	EEL 4X29	Digital Control Systems	3-0-0	3
11	EEL 4X30	Smart Grid Resiliency and Cyber Security	3-0-0	3
12	EEL 4X31	Cloud Computing and Big Data Analytics in Smart Grids	3-0-0	3
13	EEL 4X32	Challenges and Solutions in Renewable Integration	3-0-0	3

14	EEL 4X33	Signal Processing in Smart Grids	3-0-0	3
15	EEL 4X34	Microgrid Dynamics and Control	3-0-0	3
16	EEL 4X35	Evolutionary Algorithms application in Power Engineering	3-0-0	3
17	EEL 4X36	Embedded System	3-0-0	3