Master of Technology in
Power Electronics and Drives

Programme Level	Post Graduate
Year of Commencement	2017
Minimum Duration	2 Years (4 Semesters)
Maximum Duration	3 Years (6 Semesters)
Senate Meeting Reference	12.3/18.5/23.4

Preamble to the program:

Upon completion of this program, the students are expected to acquire both analytical and practical knowledge in Power Electronics and Drives (PED). The program structure is planned in an application oriented manner through specialized core-courses with a significant hands-on practicum component, research and development (R&D) oriented advanced-level courses and project work.

Objectives of the program

- To make the students conceptually strong and also aware of the state-of-the-art technology/practices in the area of power electronics and drives
- To take the students through essential stages of technology starting from circuit and system level understanding, modeling, control, design, numerical simulations and finally experimental implementation
- To expose the students to real-world industry oriented problems in the field of power electronics and drives and enable them to find feasible practical solutions to them

Salient features of the program:

- In the first semester, the focus will be on Electrical Engineering Core courses which are pre-requisites for more advanced and specialized courses. The core courses are mandatory.
- Laboratory core courses are designed so as to go hand-in-hand with theory core courses and to bring in a deeper insight into the concepts learned in the classroom. Laboratory experiments are designed in consultation with industrial partners to bring stat-of-art practices to the curriculum.
- Advanced and specialized courses are offered to make the students aware of the state-of-the-art in the technology, such that they are exposed to the real-world problems and ultimately able enough to tackle them with technology solutions.
- Advanced power electronics and drives laboratories will be developed which will not only be essential for the M.Tech students but can also be used by UG students at IIT Mandi for their projects.

1st Semester

Course No.	Title of the course	L-T-P-C
EE 508	Fundamentals of Electrical Drives	3-0-0-3
EE 508P	Practicum on Electrical Drives	0-0-3-2
EE 527	Analysis and Design of Power Electronic Converters	3-0-0-3
EE 527P	Practicum on Analysis and Design of Power Electronic Converters	0-0-3-2
EE 528	Modeling and Analysis of Electrical Machines	2-0-2-3
EE 509	Linear Dynamical Systems	3-0-0-3
HS 541	Technical Communication	1-0-0-1
EE 504	Switched Mode Power Conversion	2.5-0.5-0-3
	Total	**20**

2nd Semester

Course No.	Title of the course	L-T-P-C
EE 604	Advanced Electrical Drives	2.5-0.5-0-3
EE 604P	Practicum on Advanced Electrical Drives	0-0-2-1
	Discipline Elective-I	3 credits
EE 623P	Practicum on Digital Control of Power Electronics and drives	1-0-4-3
	Discipline Elective-II	3 credits
	*Open Elective - I	3 credits
	*Open Elective - II	3 credits
	Total	**19**

3rd Semester

Course No.	Title of the course	L-T-P-C
EE 624P	Post Graduate Project-1	0-0-30-15
	Total	**15**

4th Semester

Course No.	Title of the course	L-T-P-C
EE 625P	Post Graduate Project-2	0-0-32-16
	Total	**16**