

The MTech in Power Electronics and Power Systems (PEPS)

A student has to earn at least 131 credits, out of which

- 18 credits should be from PEPS core courses
- 9 credits should be from PEPS core labs
- 4 credits come from a mandatory seminar course
- At least 18 credits from the Department Electives (it includes the PEPS electives*).

The list of electives offered by PEPS is provided below in the section titled “List of Electives for PEPS.”

- The remaining 18 credits can be chosen as per the following conditions:
 - A student can take PEPS-electives to full-fill this requirement.
 - A student can take up to 12 credits (two theory courses) of 600 and above level from outside EECE.
 - A student can take at most 6 credits (one theory course) UG-level course, i.e., 300 or above Level course to meet their elective credits requirements. This course can be from any department including EECE.
- 64 credits from MTP I and MTP II (32 credits each).

Semester wise credits distribution

Semester 1	Semester 2	Semester 3	Semester 4
18 core theory credits	30 credits of electives	MTech Project I 32 credits	MTech Project II 32 credits
3 core lab credits			
4 credits seminar			
12 credits electives			
P/NP Communications skills course			

List of electives

- Power System Dynamics and Control
- Design of Magnetics for Power Electronics
- Power system simulation Lab
- Power Quality Analysis
- Microgrid dynamics and control
- System Design of Electronic Products
- Smart grid
- Power systems operation and control
- Modeling and control of renewable energy sources
- Electric Vehicles: Systems and components
- HIL-Lab

- Simulation of Magnetics for Power Electronics (Proposed)
- Modelling and Control of Inverter-based Resources for Grid Integration Lab (Proposed)
- Design of Power Converters Lab (Proposed)
- Power Quality Analysis Lab (Proposed)
- Power System Dynamics and Control Lab (Proposed)
- Advanced Power Electronics (Proposed - Replaces the existing course “Advanced Power Electronics and Drives”)
- 6XX: High Power AC Converters (Proposed - Replaces the existing course “Advanced Electric Drives”)