

EE 360 A: Power Electronics

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Office Hours: Walk in with an Appointment

Lectures: TW 12:00 pm-1:00 pm F 4.00 pm-5.00pm

Course Web Page: http://home.iitk.ac.in/~santanum/EE360_Web/EE360.html

The course is primarily intended for advanced UG students. The course will deal with fundamentals of power electronics. Modern power converter circuits, their design and implementation will be discussed in this course. PSPICE and other simulation tools will be extensively used.

References:

Erickson and Maksimovic, *Fundamentals of Power Electronics*, 2nd edition, Springer Science + Business (2000), ISBN 0-7923-7270-0.

Computer Requirements:

- PSpice evaluation version is sufficient for the course and can be downloaded from <http://www.orcad.com/resources/download-orcad-lite>
(To maintain Uniformity No-other version of SPICE is acceptable)
- Access to Matlab or Mathcad is required.

Evaluation

- Midterm- 30%
- Finals- 40 %
- Many Surprise Quizzes– 20 % (maximum 20 out of 100 can be earned from this)
- Simulation Assignments- 10 %

Short Syllabus:

- Fundamentals of Power Electronics Devices
- DC-DC power conversion
- AC-DC power conversion
- DC-AC power conversion