

EEPE 6354 –Power Electronics

Professor Contact Information

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Office hours: Mon – Wed 1.30pm - 2.30 pm.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Instructor's approval needed, please contact with Dr Akin

Course Description

- Introduction to power electronics
- Power semiconductors
- Steady state analysis of DC DC converters
- Small signal analysis of converters and average modelling
- Isolated power supplies and resonant converters
- Inverters and modulation techniques
- Practical implementation of power electronics systems
- Magnetics design & Thermal Design

Student Learning Objectives/Outcomes

1. Understanding of the power semiconductors
 2. Understanding of the dc dc converter operations
 3. Understanding the small signal analysis and average modelling
 4. Understanding of principle of inverter systems
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Suggested Course Materials

Erickson, R. W., & Maksimović, D. , "Fundamentals of power electronics", 2001, ISBN-10: 147570559X

Ned Mohan, Tore M. Undeland, William P. Robbins, "Power Electronics: Converters, Applications, and Design, ", ISBN-10: 0471584088

*All classroom materials will be posted to UTD website

Grading Policy

Review Paper (25%), Project Report (25%) Quizzes (30%) and Lab & HW (20%)