

Internet-Based Short Course

Power Electronics Principles for Practicing Engineers

August 18, 19, 20, 23, 24, 25 (Year 2004)

10:00-11:30AM Central Time

University of Minnesota

Room 3-125 EE Bldg

Reference Books:

1. First Course in Power Electronics by N. Mohan, www.mnpere.com
2. Power Electronics: Converters, Application and Design by N. Mohan, T. Undeland and W. P. Robbins, www.wiley.com

Module 1 (Aug 18, 2004)

Applications, Building-Block Approach, Design of the Switching Power-Pole

Module 2 (Aug 19, 2004)

DC-DC Converters and their simple Dynamic Models for PSpice simulation

Module 3 (Aug 20, 2004)

Soft-Switching and Designing Feedback Control of DC-DC Converters

Module 4 (Aug 23, 2004)

Diode Rectification and Designing Power Factor Correction (PFC) Circuits

Module 5 (Aug 24, 2004)

Transformer-Isolated DC-DC Power Supplies, Design of High-Frequency Inductors and Transformers

Module 6 (Aug 25, 2005)

Converters for DC-Motor Drives; Converters for Three-Phase AC Motor Drives and UPS using Sine-PWM and SV-PWM for Maximum (15% higher than Sine-PWM) DC-Bus Utilization