

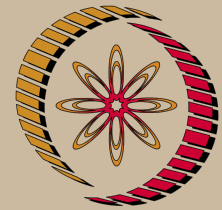
NOC: Design and Simulation of DC-DC converters using open source tools - Video course

COURSE OUTLINE

This course is a design oriented. There are many dc-dc converter topologies that are used in power supplies. This course emphasises learning and understanding the topologies through the aid of open sources tools like octave, gEDA and ngSpice. The course starts with a discussion on rectifier circuits and leads on upto multi-output dc-dc converters. The discussion on the various topologies is strengthened with the aid of simulation demonstrations and design exercises.

COURSE DETAIL

Week. No.	Topics
1	Rectifiers: Operation and design. Use of octave for design. Use of gEDA, ngSpice environment for simulation.
2	Non-isolated converters: Buck, boost and buck-boost converters. Operation and design. Simulation of non-isolated converters.
3	Isolated converters: Forward, Flyback, push-pull, half bridge, full bridge converters. Operation, design and simulation.
4	Regulation and multi-output converters: Close loop control for converters, multi-output converters, current control



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Electronics &
Communication
Engineering

Pre-requisites:

Basic electric circuits

Coordinators:

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