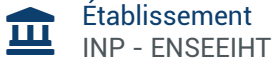


# Microprocessor Power Supply



## Présentation

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### Description

Plan du cours :

- **Introduction**
  - Advantages of using switching power supply
- **Buck converter**
  - Principle of operation
  - Continuous and Discontinuous Current Modes (CCM, DCM)
  - Losses and efficiency
  - Overview of closed-loop stability study
- **Boost converter**
  - Principle of operation
  - Continuous and Discontinuous Current Modes
  - Overview of closed-loop stability study
- **Multiphase converter**
  - Principle of operation
  - Transient response performances and filter reduction
- **DC-DC Converter Regulation Loop Analysis**
  - Theoretical analysis of switched systems using state variables
  - Different types of control loops

- Considerations for the controller design
- Buck : Voltage and Voltage/Current loop cases
- Boost & Buck- Boost : Voltage and Voltage/Current loop cases