

Thermal



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications

In brief

- **Ametys Code:** N8EE18B
- **Open to exchange students:** Yes

Presentation

Objectives

At the end of this course and the accompanying design office, students will be able to produce a nodal model of a thermal problem.

The design office, divided into two parts, also allows students to use digital tools to successfully design the cooling system for a power electronics converter.

Description

Course outline:

- Thermal engineering refresher – Heat equation – Conduction
 - Convection
 - Radiation
 - Nodal method
- Semiconductor thermodynamics
- Current research and prospects

Five lecture sessions are followed by a design office session during which students will be able to put modeling methods and various digital tools into practice.

The design office report serves as the assessment for this module.