

System level modelling and simulation



Level
BAC +4



ECTS
3 credits



Component
INSTITUT
NATIONAL
DES SCIENCES
APPLIQUEES
TOULOUSE



Number of
hours
30h

Presentation

Description

This course is dedicated to the lumped parameters modelling and simulation of power systems. The methodology and the analysis is supported by the Bond-Graph formalism. A progressive approach leads the student to acquire knowledge and practical know-how in multi-domain modelling (models structures, adaptation to simulation software, link with distributed models and inverse problems).

Practicals are based on up-to-date industrial examples that are simulated within both

Matlab/Simulink, AMESim and DymoLa.

Organization:

Lecture/tutorials plus practicals

Main difficulties for students:

Establishing multiphysics path, understanding the need.

Objectives

The student will be able to build, simulate and analyse system-level models of multi-domain power systems.

Pre-requisites

Dynamic systems, fluid mechanics, solid rigid mechanics, dynamic systems

Useful info

Place

> Toulouse